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ABSTRACT

In preparation for the next National Household Education Survey (NHES), the conceptual frameworks of participatory behavior and methods used by other researchers to study factors promoting or inhibiting participation were examined. The following items were reviewed: the adult education (AE) barriers questions included on the 1991 and 1995 editions of the NHES; 33 empirical studies of participation/nonparticipation in AE and activities other than AE; and examples of conceptual frameworks from selected areas (economics, social psychology, leisure studies, health research, AE, theories of change, dropout and attrition studies, the time allocation literature, and studies of consumer choice behavior). The option of drawing upon multiple models when developing the AE component of the next NHES was deemed superior to the single-framework option. The following key variables were recommended for consideration for possible inclusion in the NHES: demographic/background characteristics; life events and transitions; past participation in AE; other participatory behavior; co-participants; physical and mental health; intentions; perceptions of barriers; perceptions of benefits; motivations; reference group opinions; attitudes/opinions toward education; and role of technology and availability of other options to formal AE courses. (Thirty-eight tables/figures/exhibits are included. The report contains 98 references. Appended are abstracts of all 33 empirical studies reviewed; each contains the following: citation, objective/purpose/goal, type of activity, research method, subjects, structural/technical issues, and conclusions/implications.) (MN)

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Adult Education Participation Decisions and Barriers: Review of Conceptual Frameworks and Empirical Studies

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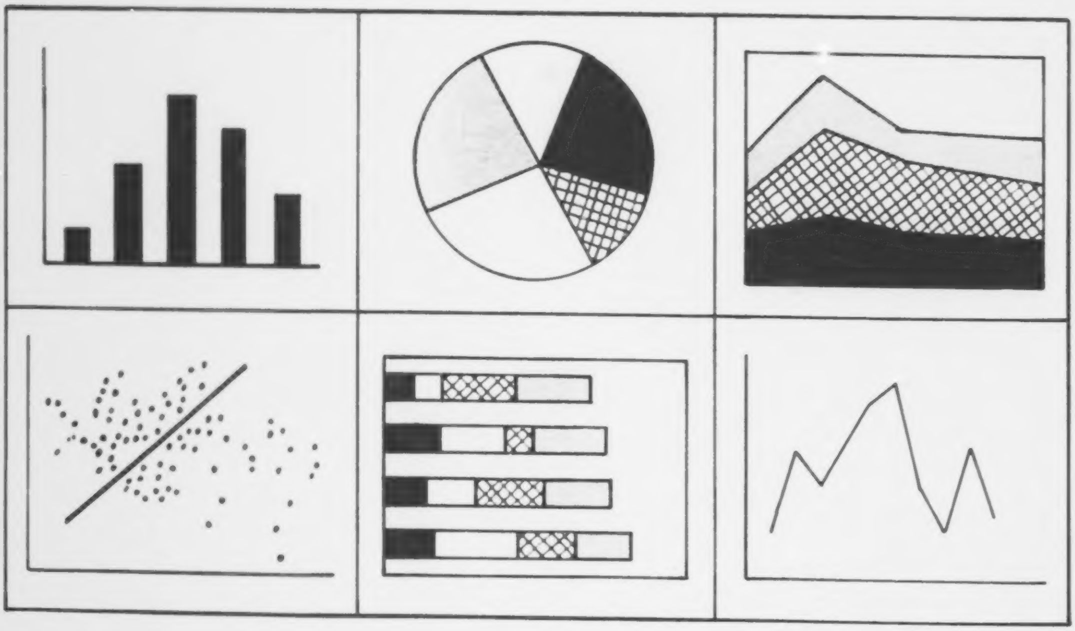

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Adult Education Participation Decisions and Barriers: Review of Conceptual Frameworks and Empirical Studies

Working Paper No. 98-10 August 1998

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LACIRENO

August 1998

Foreword

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The ***Working Paper Series*** was created in order to preserve the information contained in these documents and to promote the sharing of valuable work experience and knowledge. However, these documents were prepared under different formats and did not undergo vigorous NCES publication review and editing prior to their inclusion in the series. Consequently, we encourage users of the series to consult the individual authors for citations.

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Adult Education Participation Decisions and Barriers:

Review of Conceptual Frameworks and Empirical Studies

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National Center for Education Statistics

August 1998

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I. INTRODUCTION

A. BACKGROUND

Each year, millions of American adults enroll in some type of formal educational program. The classes they take include English as a Second Language (ESL), basic skills and preparation for the General Educational Development (GED) exam, job or career related courses, vocational training, apprenticeship programs, and formal instruction in a host of other subjects ranging from Bible study to sports and recreation. Furthermore, adults' objectives and motivations for participating are just as diverse as the classes they take. Some want to improve their skills or develop new ones; others want to obtain a diploma or credential; and still others are simply interested in learning new things.

Millions more adults each year, however, do *not* participate in any formal adult education activities. These adults' reasons for not participating can also be seen as highly diverse. Some may not know about available courses; others may be unable to take a desired course because of time or transportation constraints; and still others are simply not interested.

It is widely assumed by officials who design and offer various formal adult education programs that many adults who do not participate in certain classes could benefit from doing so. In general, policy makers and program administrators have long been concerned with the ability of targeted groups to access programs designed for their benefit. Thus a great deal of research has been conducted over several decades to identify factors that promote or inhibit program participation.[1] With such information, officials presumably can take steps to reduce or eliminate certain barriers to participation, thereby making it easier for more people to take advantage of the services programs offer.

One major recurring effort to collect such data with regard to adult education (AE) is the National Household Education Survey (NHES), conducted at periodic intervals since 1991. NHES provides the most detailed national data available on adult education participation rates and the characteristics of those who participate. NHES measures both levels of participation and reasons why potential participants do and do not participate in different types of adult education. These measures, however, have proved challenging, both in terms of consistency of results with other studies and reliability as measured by reinterviews. Variations in estimates of participation from different studies (Brick and Collins 1996) indicate that participation rates are highly subject to survey design differences. Similarly the reinterview results for the barriers to participation questions indicate that these questions had somewhat higher difference rates than other items on the survey (Brick, Wernimont and Montes 1996).

---

[1] Factors that inhibit or prevent people from participating in activities such as AE are sometimes referred to as barriers, constraints, deterrents, impediments, or obstacles. We generally use the term barriers in this report.

B. PURPOSE

As the National Center for Education Statistics (NCES) prepares for future rounds of NHES, it is useful to examine the content and structure of the adult education component. Specifically, questions arise such as:

- How do the existing NHES items correspond to differing conceptual frameworks and models of participatory behavior? How might these conceptual frameworks lead to different items or a different structure, especially with regard to the barrier questions? Would these items be feasible for NHES?

- How are the content, structure, and response choices in the NHES barriers questions similar or dissimilar to other attempts to measure similar constructs? Is there a consistency of findings? Are there alternatives that might be worth considering for NHES?

This working paper begins to address these questions through a review of conceptual frameworks and of recent surveys that have attempted to study participatory behavior and barriers to participation. NCES is understandably interested in trying to get reliable data on AE when the subject is next addressed. NCES also is open to the possibility of exploring different options for asking about barriers to AE participation from those used in the past versions of NHES.

Toward those ends, NCES contracted with Mathematica Policy Research, Inc., to (1) conduct a review of conceptual frameworks of participatory behavior and (2) review how other researchers have studied factors that promote or inhibit participation. NCES directed that the scope of literature reviewed be broad and include frameworks and studies from a wide range of disciplines beyond the field of AE, to see if any insights might be gained from research on participation and nonparticipation in other activities.

C. THE ADULT EDUCATION COMPONENT IN NHES

For readers unfamiliar with the coverage, structure, and content of the adult education component of NHES, exhibit 1-1 lists the major data items from NHES: 95 and notes the group of respondents being asked each line of questions. As can be seen from exhibit 1-1, the variables covered by the adult education component are extensive, including a wide range of demographic, socioeconomic, employment, income, occupation, and past education variables. The adult education component covers in detail the extent and characteristics of participation in four types of adult education (ESL, basic skills and GED, credential related, and work and career related). The survey is structured so that largely parallel questions are asked for each of the four types of adult education. In addition, there are a smaller number of selected questions for apprenticeships and other types of adult education classes. The questions on adult education participation include the extent and types of classes taken in the last 12 months, employer and other support for classes, expenses, type of provider, reasons for taking classes, major field if applicable, and whether participants would take the same classes again.

As can be seen from exhibit 1-1, only those respondents who met certain criteria were asked about participation in certain types of adult education. For example, only those for whom English was not the first language were eligible for ESL questions and only those without a high school diploma or who had received one in the last 12 months were asked questions about basic skills/GED classes. Those eligible for the participation questions who indicated they had not participated were then asked a series of questions designed for nonparticipants, pertaining to barriers.

Because the barriers questions are of particular concern to this working paper, we provide a detailed overview of their composition and structure in NHES: 95 and, for comparison purposes, in NHES: 91.

1. NHES:95 AE Barriers Questions

NHES: 95 contained a standard set of barriers questions that appeared in three sections of the questionnaire--those concerning ESL classes, basic skills and GED preparation classes, and job or career related courses.[2] As indicated above, the questions were asked only of nonparticipants in each of these types of AE classes. The section began with a set of screener questions. First, all nonparticipants were asked, "In the past 12 months, did you have an interest in taking any [type] classes?"

---

[2] Barriers questions were not asked concerning people's experiences with (1) programs to earn various credentials (college or university degrees, or diplomas or certificates from vocational or technical schools or formal vocational training programs), (2) apprenticeship programs, (3) other formal programs with an instructor (such as classes in arts and crafts or sports and recreation), or (4) computer-based or interactive video instruction.

Respondents who answered "no" skipped to the end of the section; those who answered "yes" were then asked a question about the intensity of their interest.[3] Next, they were asked, "Of the [type] classes that you were interested in, did you know of any courses you could have taken in the past 12 months?" Respondents who answered "no" skipped to the end of the section; those who answered "yes" were then asked a series of questions about possible barriers to their participation. Thus, the actual barriers questions were addressed only to adults who were interested in a class and knowledgeable of ones available, but did not take one--the presumption being that they must have somehow been prevented from doing so.

The first barriers question was, "Now, I'm going to read a short list of things that may have prevented you from taking [type] classes. For each one, please tell me if it was a major obstacle, a minor obstacle, or not an obstacle." The list contained four potential barriers--"time," "money or cost," "child care,"[4] and "transportation"--and respondents were also allowed to specify any other obstacle they had encountered. Respondents who rated only one item a major obstacle, or rated no items major obstacles and rated only one item a minor obstacle, skipped the second barriers question.[5] Respondents who rated all items as not obstacles skipped to the end of the section. Other respondents were asked the second barriers question.

The second barriers question was, "Of the reasons you said were (major/minor) obstacles, what was the main thing that prevented you from taking [type] classes?" Respondents who said that the obstacle they themselves had suggested (that is, not time, money or cost, child care, or transportation) was the main barrier skipped to the end of the section. Other respondents were asked the third barriers question.

The third barriers question asked respondents only about the main barrier category that they had specified in answer to the second question: "Now, I'm going to read a short list of (time/money or cost/child care/transportation) related problems that may have prevented you from taking [type] of classes. For each statement, please tell me if it was a major obstacle, a minor obstacle, or not an obstacle for you." The statements, or specific reasons, are listed below, by category.

TIME

A desire to spend time with your family
A need to take care of family duties or chores around the house
Being unable to take classes offered only during work hours

---

[3] "Would you say you were very interested, somewhat interested, or slightly interested in taking [this type of] courses?"

[4] If the respondent had no children, this item was not used.

[5] Actually, the sole item they rated as major or minor was autocoded as their answer to the second barriers question.

Work responsibilities that do not permit you to take classes either during or after work hours
Activities outside of work that conflict with course schedule
The travel time to and from courses
Another time related problem (What was that?)

MONEY OR COST

The amount of tuition and fees for classes
The cost of books and supplies for classes
The cost of child care
The cost of transportation
Another money or cost related problem (What was that?)

CHILD CARE

The cost of child care
The availability of child care
Another problem with child care (What was that?)

TRANSPORTATION

The cost of transportation
The availability of transportation
The travel time to and from classes
Another problem with transportation (What was that?)

Respondents who rated only one item a major obstacle, or rated no items major obstacles and rated only one item a minor obstacle, skipped the fourth barriers question (to the end of the section).[6] Respondents who rated all items as not obstacles also skipped to the end of the section. Other respondents were asked the fourth and final barriers question.

The fourth barriers question was, "Among the (time/money or cost/child care/transportation) related problems you indicated as (major/minor) obstacles, what was the most important obstacle?"

---

[6] Actually, the sole item they rated as major or minor was autocoded as their answer to the fourth barriers question.

2. NHES:91 AE Barriers Questions

In contrast, NHES:91 used a far simpler, less complex approach to asking about barriers. It involved a single question, which came after questions about specific classes the respondents may have taken, and before questions about the respondent's background (age, race, sex, etc.). All survey respondents (except those enrolled full time in an educational program other than elementary/secondary school), regardless of their experiences with AE, were asked, "Have any of the following things kept you from participating in (additional) adult education?" The respondents were supposed to answer yes or no to each of nine specific things, read in the following order: "Your work schedule," "The meeting time of the classes," "The cost of classes," "The location of classes," "Lack of transportation to classes," "Lack of child care," "Other family responsibilities," "Lack of information about available classes," and "Classes of interest are not offered." A tenth item asked respondents, "Was there anything else that might have kept you from participating?" Respondents who answered "yes" were asked to specify what that was.

D. ORGANIZATION OF THIS PAPER

The remainder of this paper has three chapters. Chapter II reviews several conceptual frameworks that have been put forth to explain and understand participatory behavior and presents notes on their possible implications for NHES. Chapter III reviews empirical research studies on factors that promote or inhibit participation in AE and other activities. Chapter IV discusses the implications of our review, raises some questions to be considered in redesigning NHES, and proposes some alternatives for consideration. In addition, this paper includes a list of references and an appendix that presents detailed summaries of the empirical research studies reviewed for this project.

Exhibit 1-1.--Summary of data items in NHES:95 adult education component

Items present for all respondents	
Screening demographic information Age, gender, other household members age and gender, Grades completed Diplomas (voc tech, high school, high school in US, high school through GED) Employment work in last 12 months; self employed; other employment; number of employers; Language; first language learned; language spoken at home Other demographic Race, Hispanic, marital status, country of origin, age move to US, US citizen Armed forces participation and dates, Certification/licensure for job, certification/licensure for trade, legal for certification	Employment —worked for pay last week, looked for work, how looked for work, could have taken job, ever worked at job, year left job, how long worked for employer, months worked in last year, unemployed and looking, more than one job, Benefits—health, vacation, pension, total earnings, industry, occupation, member of labor union, likelihood of layoff, Communication—how well read and write English Own or rent home Other telephone numbers in house, without phone Earnings and total household income

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Exhibit 1-1.--Summary of data items in NHES:95 adult education component—(continued)

NHES variables on adult education participation and non-participation			
Credentialing (D section)	**ESL (B section) If language other than English in screening question**	**Basic Skills (C section): If no High School Diploma or received in last 12 months**	**Career or Job related courses in last 12 months (F section)-All received**
Degrees/certificates Major field List the classes; Answer for up to 3	ESL classes Part of college/ Number of ESL programs	Taken basic skills classes Taken GED classes Taken other high school equivalency program	Taken career or job related courses not counting others; list the courses Answer for up to 6
Main reason for credential program (improve advance, keep up to date on current, train for new job, improve basic skills, meet requirement for diploma or credential, personal family or social, some other main)	**Main reason for ESL** (improve job, train new, improve basic skills, meet requirement, family reason, communication skills, other)	**Main reason for taking classes**/program (improve advance in current job, train for new, improve basic skills, meet requirement for GED/HS, personal family, social reason, meet requirement other than GED/HSD other)	**Main reason for taking** (improve advance in current job, train for new, improve basic skills, meet requirement for degree, credential, personal family, social reason, other reason)
Months enrolled PT and FT; Different schools for credit; Number of credit courses; Voc programs? Length of voc program; Hours attended ft and pt	**Part-time or full-time** How learned about ESL Time spent in ESL classes	**Part-time or full-time** How learned about ABE/GED Time spent-weeks/other units	**Time spent-unit of time.** Weeks, hours unit of time
Amount of expenses for credit from own money	**Amount for expenses** for ESL classes	**Amount for expenses** for ABE/GED	**Amount for expenses** for work related
Type of provider (school, businsess, govmt, private, other)	**Type of instruction provider** (school level, government, business, private, church, business, industry, organization) Type of location	**Type of instruction provider** (school level, government, business, private, church, business, industry, organization) Type of location	**Type of provider** (school level, government, business, private, church, business, industry, organization) Type of location
Employer Support Was provider employer? Have assistantship fellowship, work study? Employer aware Employer required Employer gave time off Employer gave space Employer paid costs Employer support thru union agreement (collected for up to 3 credit or voc programs)	**Employer Support** Was provider also employer? Employer aware Employer required Employer gave time off Employer gave space Employer paid costs Employer support thru Union agreement Would take again	**Employer Support** Was provider also employer? Employer aware Employer required Employer gave time off Employer gave space Employer paid costs Employer support thru Union agreement Would take again	**Employer Support** Was provider also employer? Employer aware Employer required Employer gave time off Employer gave space Employer paid costs Employer support thru Union agreement Would take again

Exhibit 1-1.--Summary of data items in NHES:95 adult education component—(continued)

Other participation	**Questions for non-participants**		
Apprenticeship	**Non-Participants (ESL)**	**Non-Participants (ABE/GED)**	**Non-Participants (career or job related)**
Participation			
Still in program	Interested?	Interested?	Interested?
Admission test required?	Level of interest	Level of interest	Level of interest
Employer sponsored	Knew of classes?	Knew of classes?	Knew of classes?
Someone else sponsored			
Length of apprenticeship	**Barriers**	**Barriers**	**Barriers**
Hrs. on job training	Time was barrier	Time was barrier	Time was barrier
Hrs. in classroom	Money was barrier	Money was barrier	Money was barrier
	Child care was barrier	Child care was barrier	Child care was barrier
Other structured course?	Transportation was barrier	Transportation was barrier	Transportation was barrier
Main reason	Something else barrier	Something else barrier	Something else barrier
Type of provider			
Employer provider?	**Main general barrier to** ESL	**Main general barrier to** ABE/GED	**Main general barrier to** work related
Expenses for other structured			
Unit of time for and time hours attended (repeated for up to 3 courses)	**Specific barriers within general barriers**	**Specific barriers within general barriers**	**Specific barriers within general barriers**
	Time	**Time**	**Time**
Employer any support	Desire to spend time with family	Desire to spend time with family	Desire to spend time with family
Union agreement	Need to do chores	Need to do chores	Need to do chores
	Unable during the week	Unable during the week	Unable during the week
Computer/video classes only?	Work not permit	Work not permit	Work not permit
	Activities conflict	Activities conflict	Activities conflict
Number	Time travel to and from	Time travel to and from	Time travel to and from
Hours spent in computer classes	**Money/cost**	**Money/cost**	**Money/cost**
	Tuition and fees	Tuition and fees	Tuition and fees
	Another money problem	Another money problem	Another money problem
	Books and supplies	Books and supplies	Books and supplies
	Cost of child care	Cost of child care	Cost of child care
	Another money problem	Another money problem	Another money problem
	Child Care	**Child Care**	**Child Care**
	Child cost of child care	Child cost of child care	Child cost of child care
	Availability of child care	Availability of child care	Availability of child care
	Another child care	Another child care	Another child care
	Transportation	**Transportation**	**Transportation**
	Cost of transportation	Cost of transportation	Cost of transportation
	Availability of transportation	Availability of transportation	Availability of transportation
	Trans-travel to and from class	Trans-travel to and from class	Trans-travel to and from class
	Another transportation problem	Another transportation problem	Another transportation problem
	Main specific barrier to ESL	**Main specific barrier to ABE/GED**	**Main specific barrier to work related**

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II. A REVIEW OF SELECTED CONCEPTUAL FRAMEWORKS OF PARTICIPATORY BEHAVIOR

In this chapter we review and discuss conceptual frameworks that have attempted to model and explain participatory behavior.[1] A conceptual framework by definition goes beyond mere description. It either posits a causal sequence of explanatory factors or more minimally presents a typology of constructs for organizing information. Not all of the frameworks discussed can be considered theories of behavior and many are more properly considered typologies, however, we have included them as examples of the way researchers have attempted to use concepts to guide and interpret their research.

A. SCOPE AND STRUCTURE OF THE FRAMEWORKS REVIEW

The frameworks included in the review were chosen based on two considerations: (1) an attempt to represent a diversity of disciplinary approaches and conceptual emphases, and (2) a preference to examine frameworks that have guided or informed at least one known empirical study. The models were selected from a literature review that targeted both frameworks on participatory behavior in general and education participation in particular. A few were developed in such a way as to be applicable to any type of behavior. This review is not intended to be an exhaustive discussion of conceptual frameworks concerning adult education participation or participatory behavior in general, but rather one that illustrates both the differences and common aspects of approaches and the variables implied.

The specific frameworks discussed are as follows:

Economics
Human Capital/Cost-Benefit Theory (Dhanidina and Griffith 1975; Becker 1962, 1993)
Internal Rate of Return (IROR) (Cohn and Hughes 1994).
Case-Based Decision Making (CBDT) (Gilboa and Schmeidler 1995)

Social-psychology
Theory of Reasoned Action (Ajzen and Fishbein 1980; Presthold and Fisher 1983; Young and Kent 1985; Fishbein and Stasson 1990; Bright, Manfredo, Fishbein, and Bath 1993)
Theory of Planned Behavior (Ajzen and Driver 1992)

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[1] The terms framework and model are used interchangeably in the remainder of this report.

Leisure and recreational studies
Interdisciplinary, Sequential-Specificity, Time-Allocation, Lifetime Model (ISSTAL)General Activity Model (Smith and Macaulay 1980; Smith and Theberge 1987; Cookson 1986)
Constraint frameworks (Crawford and Godbey 1987; Crawford, Jackson and Godbey 1991, Alexandris and Carroll 1997; Williams and Basford 1992)

Health
Behavioral Model of Health Services Use (Anderson 1975; Champion, Skinner, Miller, Goulet, Wagler 1997)

Adult education/interdisciplinary
Early expectancy-valence theories (Knox and Videbeck 1963; Miller 1967)
Recruitment Paradigm (Rubenson 1977)
Chain-of-Response Model (Cross 1981)
Psycho-social Interaction Model (Darkenwald and Merriam 1982)

***Theories of change** (cross discipline)*
Transformational learning theory (Mezirow 1992, 1996)
Transtheoretical perspective (Myers and Roth 1997)

Education-dropping out and student attrition
Adaptation of social system model (Garrison 1988)
Theory of Institutional Departure (Tinto 1975, 1993)

Time allocation
Factors affecting time use (Robinson 1977; Robinson, Andreyenkov, Patrushev 1989)

Consumer behavior
Optimum Stimulation Level (Raju P.S. 1980; Steenkamp and Baumgartner, 1992)
Behavioral Perspective Model of Purchase and Consumption (Foxall, 1992)

1. Organization of the Review

For ease of discussion we have organized the frameworks into the nine groups noted above: economics, social-psychology, leisure studies, health, adult education, theories of change, education drop outs and student attrition, time allocation, and consumer behavior. However, one of the features we observed during the review was the use of certain frameworks across the disciplines. For example, several of the frameworks originally developed by psychologists were used in health, education, and leisure studies. Similarly, frameworks from leisure studies were adapted for use in education and health. We have generally classified frameworks according to the discipline or emphasis of the author of the framework. For each framework, an exhibit is presented summarizing the major emphasis and the constructs or variables the framework measures. In some cases, we have placed notes in the right column concerning NHES and the framework. Usually, these notes indicate whether NHES attempts to measure the major constructs of the framework. These notes are not intended to flag shortcomings of NHES but serve only to indicate places in which the framework might lead to consideration of other alternatives for NHES. Where available, we have included a diagram of the framework, often as applied to a specific study. In the accompanying narrative we summarize the frameworks and briefly discuss them relative to the NHES survey.

B. A DESCRIPTION OF THE FRAMEWORKS

1. Examples from Economic Frameworks

One approach to understanding the decision to engage or not engage in adult education is drawn from economics and the human capital perspective (Becker 1964, 1993; Schultz 1962). This perspective has been widely used in the last 40 years in evaluating the worth of education both from the society's and the individual's points of view and a full discussion of the framework is beyond the scope of this work. In his Nobel lecture called the "Economic Way of Looking at Behavior," Gary Becker summarized this perspective (1993). An underlying assumption is that individuals maximize welfare as they conceive it. Behavior is forward looking and consistent over time. Persons try to anticipate uncertain consequences of actions. Actions are constrained by income, time, imperfect memory and calculating capacities and other limited resources and opportunities. Time is the major constraint. Time becomes more valuable as goods become more abundant. Human capital analysis starts with the assumption that individuals decide on their education, training, medical care, and other additions to knowledge and health by weighing the benefits and costs (Becker 1964; 1993). Benefits include the cultural and other non-monetary gains along with improvement in earnings and occupations, whereas costs include the forgone value of the time spent on these investments. The concept of human capital also covers accumulated work and other habits, even including harmful addictions such as smoking and drug use. Human capital in the form of good work habits or conversely, for example, addictions have major positive or negative effects on productivity in both market and non-market sectors.

In our review of frameworks we have included three examples of economic oriented approaches to looking at participatory behavior (Dhanidina and Griffith 1975; Gilboa and Schmeidler 1995; Cohn and Hughes 1994). Each are summarized below.

Cost-Benefit Framework. In a 1975 study Dhanidina and Griffith used an economic approach to look at participation in adult education. They put forth a rationalistic model on participant decision making. Participation is seen as an investment in one's human capital. One of the primary ways to augment one's human capital is through education and training. They note that "the decision to obtain more schooling is a deliberate choice which resembles the decision-making of other investors" (p. 218). The decision to participate is analyzed in terms of costs and benefits of this "investment." Participation is more likely to occur when the benefits of participation outweigh the costs. The cost variables include: tuition, materials, and transportation, as well as the less tangible value of time invested in learning. Benefits include cultural and nonmonetary gains, as well as possible future monetary gains from increased earnings or higher salaries. This framework is basically about utility maximizing behavior. Individuals will take actions or behave in ways that maximize their total utility.

Internal Rate of Return (IROR). Cohn and Hughes (1994) use this framework to build on an expected utility model. The perspective views educational activity as an investment and looks at the expected rate of return in increased earnings, compared with investing in other things such as tenure at a job. However, the theory also notes the importance of the person's internal evaluation of the relative worth of the investment. The important variables to measure are the respondent's background including age, sex, race, marital status, location, parent schooling, parent SES, siblings, religion, education/college. The next group of variables covers the respondent's employment status and includes earnings, tenure in current job, self-employment, whether covered by collective bargaining agreement, and union membership. Lastly, societal variables are important to the model including the unemployment rate, average earnings, and national occurrences such as a war or other national event.

Case-Based Decision Theory (CBDT). This framework sees problems as "choice situations" involving decision problems (Gilboa and Schmeidler 1995). An individual remembers past problems and how he/she resolved them and the result. When a new problem arises, he or she is reminded of similar past problems, choices that were made, and the results (these three are known as a "case"). Based on the cases recalled, each possible decision is evaluated. The model "evaluates each act by the sum, over all cases in which it was chosen, of the product of the similarity of the problem to the one at hand and the resulting "utility" (p.609). CBDT does not assume individuals have beliefs in the absence of data (recalled cases). CBDT also sums utilities (or costs and benefits). However, unlike cost-benefit analysis, it does not list all possible costs and benefits because only those cases in the memory (not hypothetical situations) can be used in reaching the decision.

Considerations with Regard to NHES. Of the frameworks we observed, NHES appears to cover more of the variables and potential constructs of major interest to an economic approach than some of the other frameworks we will discuss. As exhibit 1-1 in chapter I illustrates, NHES is rich in data on the respondent's background, economic status, income, occupation, former education, employer support and costs of educational activity. The survey even includes information on job tenure and union membership. There is less information collected on the respondent's past experiences and perceptions of benefits.

Exhibit 2-1.--Examples of conceptual frameworks: economic orientation

Framework	***NHES notes***
1. Cost-Benefit Theory applied to education *(Dhanidina and Griffith 1975)* ***Major emphasis*** *Participant's investment in Human Capital. Participant as rational decision maker. Will participate if benefits exceed costs.* ***Variables to measure*** ▪ ***Costs****- tuition, materials, transportation, value of time invested in learning* ▪ ***Benefits****- expected income, expected further training, expected occupation, higher present or future earning capabilities* ▪ ***Other intervening variables****- Labor market experience (present employment, occupation, wages, past income)* ▪ ***Personal background****- age, race, school completed, reason for resuming school*	NHES has extensive demographic/SES variables such as age, income, years of work at job, occupation These allow construction of expected value that might be derived from additional education. NHES has variables that indicate cost of adult education.
2. Internal Rate of Return (IROR) *(Cohn and Hughes 1994)* ***Major emphasis*** *Views educational activity as investment and looks at the expected rate of return in increased earnings, compared with investing in other things such as tenure at job.* ***Variables to measure*** ▪ ***Respondent background:*** *Age, sex, race, marital status, location, parent schooling, parent SES, siblings, religion, education/college* ▪ ***Employment status****: earnings, tenure in current job, self employment, covered by collective bargaining agreement, union member,* ▪ ***Societal****: unemployment rate, average earnings, occurrence of war or other national event*	Major variables of interest to this theory are covered by current NHES. The survey covers most of the background and employment status variables of interest to this theory—it does not call for obtaining respondents perception of relative values. Societal variables can be obtained from other data sets for analysis.
3. Case Based Decision Theory (CBTD) *(Gilboa and Schmeidler 1995)* ***Major emphasis*** *Decision making under uncertainty is in part case based. Utility theory is too restrictive when all outcomes are not known as is typically the case in decision making. Theory posits importance of past experience with problem, acts, and results (making up a case).* ***Variables to measure*** *Memory of similar problems, acts, outcomes, judgment of utility, reputation Similar cases recalled and based on them decision is made. Posits the sum of similarity of case and case importance must be added to judgment of the expected utility (EUT) making up evaluation of benefit.*	Suggests importance of information on past experience of utility of educational behavior might be important in explaining decisions with regard to adult education participation.

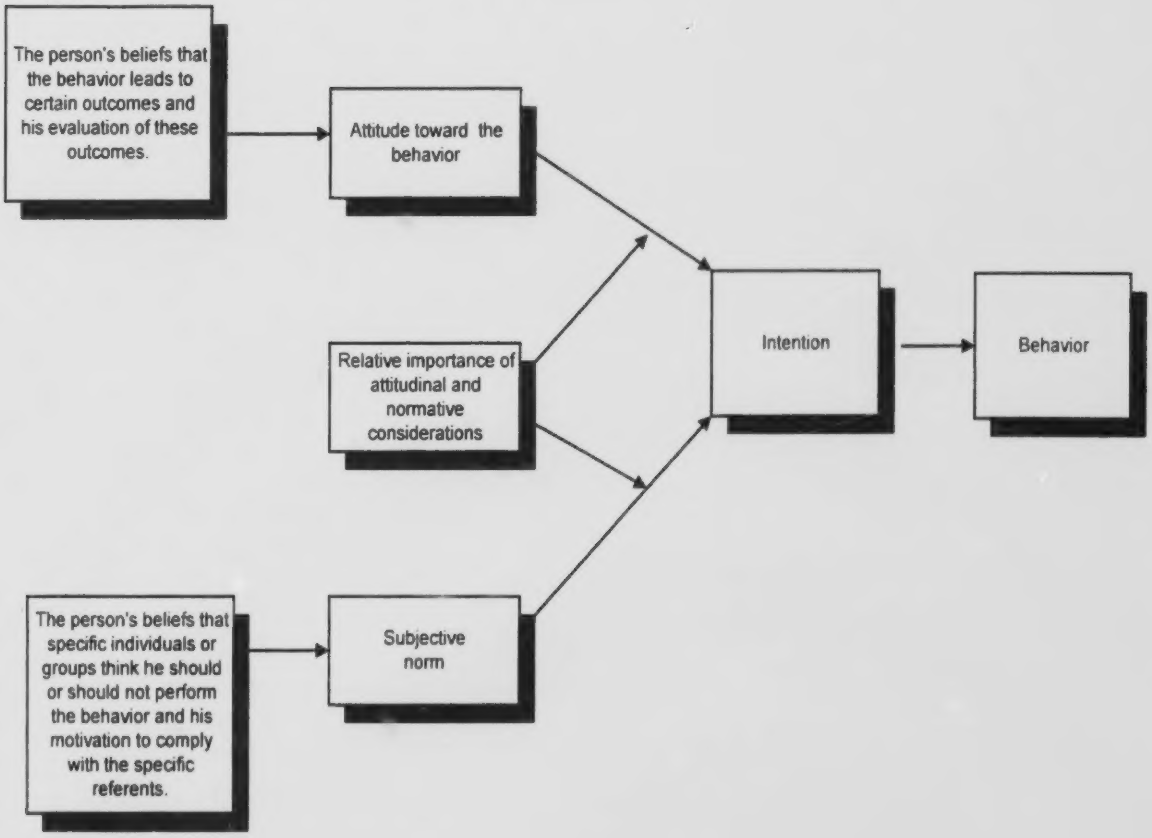
2. Examples from Social Psychology

A frequently cited framework from the field of social psychology is the ***Theory of Reasoned Action*** (Ajzen and Fishbein 1980). This framework is graphically represented in figures 2-1 and 2-2. The framework has been widely used in empirical studies in the area of predicting behavior ranging from education to health. Examples include work place training (Fishbein and Stasson 1990), dropping out of high school (Prestholdt and Fisher 1983), leisure choices (Ajzen and Driver 1992), recreational behavior (Young and Kent 1985), implementing park service policies (Bright, Fishbein, Manfredo, and Bath 1993), and screening for mammography (Michels, et al. 1995). The mammography application is represented in figure 2-2.

As the name implies, the theory is based on the idea that people are rational and that they make systematic use of information available to them to make decisions. It argues that people think about the implications of their actions before engaging in a behavior. The theory holds that "a person's *intention* to perform (or to not perform) a behavior is the immediate determinant of the action" (Ajzen and Fishbein 1980, p. 5). The theory deals primarily with actions under volitional control. The main concepts in the theory are behavior, behavioral intention, attitude, subjective norms, and beliefs/evaluations. These concepts, according to the theory, are independent, yet affected by each other.

A first step is to identify and measure the behavior of interest and then to see what determines the behavior. A person generally acts in accordance with his/her intentions. Intentions, according to the theory, are a function of two determinants: personal attitude toward the behavior and social pressures or subjective norms. For some intentions, personal attitudes may be more important than social considerations or vice versa. Assigning weight or importance to the two determinants of intention increases the explanatory power of the theory. Attitudes are a function of beliefs about behavior. Subjective norms are a function of normative beliefs-- or beliefs about what the individual thinks various reference groups or individuals think he should or should not do. The subjective norm exerts pressures independent of the individuals' own attitudes toward the behavior in question. Demographic or personality variables are seen as determinants of behavior only through their influence on beliefs or attitudinal and normative considerations. To summarize, the theory posits that "individuals will intend to perform a behavior when they evaluate it positively and when they believe that important others will think they should perform it" (Ajzen and Fishbein 1980, p. 6).

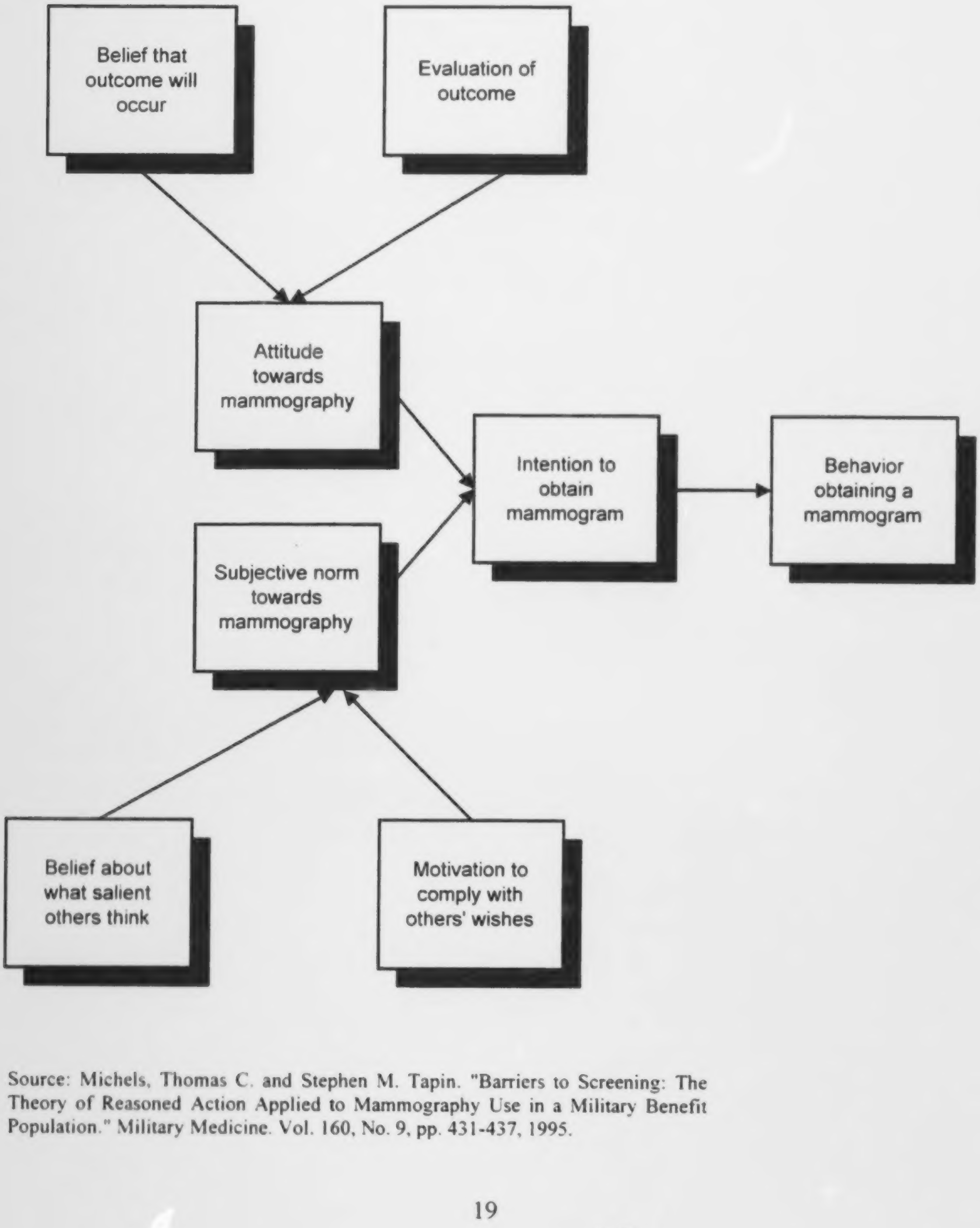
Figure 2-1.-- Theory of reasoned action


The person's beliefs that the behavior leads to certain outcomes and his evaluation of these outcomes.
Attitude toward the behavior
Relative importance of attitudinal and normative considerations
Intention
Behavior
The person's beliefs that specific individuals or groups think he should or should not perform the behavior and his motivation to comply with the specific referents.
Subjective norm

Note: Arrows indicate the direction of influence

Source: Ajzen, Icek and Martin Fishbein. *Understanding Attitudes and Predicting Social Behavior.* Englewood Cliffs, NJ: Prentice Hall, 1980.

Figure 2-2.-- The theory of reasoned action applied to mammography

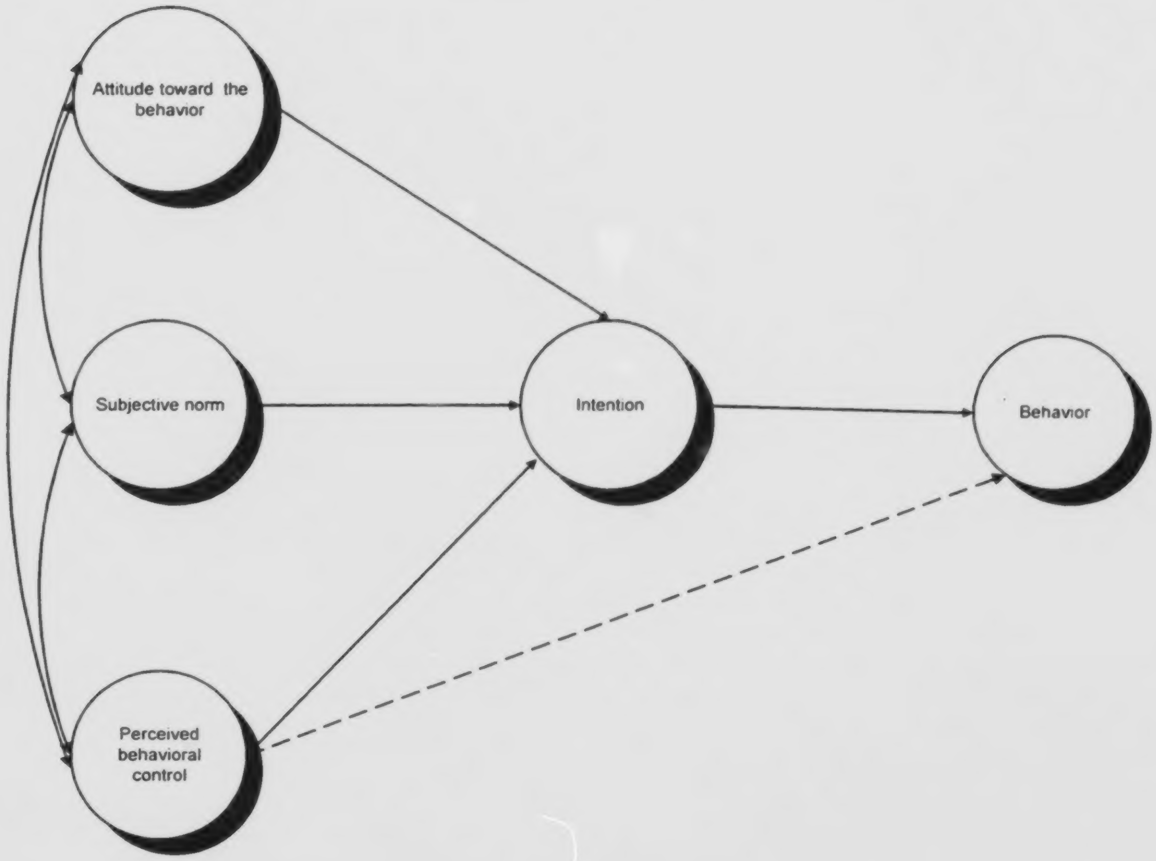

Belief that outcome will occur
Evaluation of outcome
Attitude towards mammography
Intention to obtain mammogram
Behavior obtaining a mammogram
Subjective norm towards mammography
Belief about what salient others think
Motivation to comply with others' wishes

Source: Michels, Thomas C. and Stephen M. Tapin. "Barriers to Screening: The Theory of Reasoned Action Applied to Mammography Use in a Military Benefit Population." Military Medicine. Vol. 160, No. 9, pp. 431-437, 1995.

The Theory of Planned Behavior. Ajzen developed a framework that extends from the theory of reasoned action, called *theory of planned behavior* (see figure 2-3). This theory adds the concept of *perceived behavioral control* to the theory of reasoned action. In this framework the perceived ease or difficulty of performing a behavior partly determines the intention to perform a behavior. Intention is a central factor of both the theories of reasoned action and of planned behavior, however, reasoned action does not consider peoples' conception of control over the behavior (Ajzen and Driver 1992). In this theory, Ajzen's two assumptions are, first, holding intention constant, effort toward a successful completion of a behavior is likely to increase with higher perceived behavioral control. Second, he assumes a direct link between perceived behavioral control and behavioral achievement because perceived behavioral control can be used as a substitute measure of actual control. The general rule is "the more favorable the attitude and subjective norm with respect to a behavior, and the greater the perceived behavioral control, the stronger should be an individual's intention to perform the behavior" (p. 208, 1992). These frameworks are summarized in exhibit 2-2.

Considerations with regard to NHES. The applications for which this framework has proved most useful relate most often to decision making behavior that is situation specific. The behavior of interest is often among persons in similar circumstances (for example, looking at the differences in intentions, attitudes, and beliefs among those who attended or did not attend a new telephone system instruction session held for secretaries employed by a university). The theory may have less power with regard to life changing decisions exercised by a diverse group in differing situations. NHES questions generally do not deal with intentions and beliefs about or attitudes toward adult education, although NHES attempts to measure why the respondent participated in adult education. Nor does NHES try to measure subjective norms influencing a respondent's view about participating in adult education. With regard to the concept of perceived control, NHES does obtain information on employer requirements, but does not include the respondent's levels of self-actuality and ability to control barriers.

Figure 2-3.-- Theory of planned behavior



Source: Ajzen, Icek and B.L. Driver. "Application of the Theory of Planned Behavior to Leisure Choice." Journal of Leisure Research, Vol. 24, No. 3, pp. 207-224, 1992.

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Exhibit 2-2.--Examples of conceptual frameworks: social psychology

Framework	***NHES notes***
4. Theory of Reasoned Action *(Ajzen and Fishbein 1980; Presthold and Fisher 1983; Young and Kent 1985; Fishbein and Stasson 1990; Bright, Manfredo, Fishbein, and Bath 1993)* ***Major emphasis*** *When one is dealing with behavior under volitional control the best predictor is person's intention to perform action. The intention can be predicted by two motivational factors, the person's attitude toward performing behavior and persons subjective norm. Attitude is a person's feeling of favorableness or unfavorableness and subjective norms is one's perception that others are pressuring or not pressuring one to perform action.* ***Variables to measure*** ***Attitude to behavior*** *- assessed by traditional measure of attitude such as semantic differential.* ***Subjective norms****- assessed through items asking whether he or she thinks those important to respondent think he or she should perform action. Attitudes toward performing behavior and subjective norms can be predicted by the* ***behavioral beliefs, evaluations, normative beliefs and motivations to comply****.* ***Beliefs****- refer to perceived likelihood that behavior will lead to certain outcomes.* ***Evaluations****- are the extent to which outcomes are perceived as negative or positive.* ***Normative beliefs****- are the perceived likelihood that particular important referent or group thinks one should or should not do action* ***Demographic variables****- act through the attitudes and beliefs*	Current NHES does not try to measure attitudes or extent of favorableness adult education participation-except in so far as items ask for whether would do again, and for non-participants asks about interest. Nor does NHES try to measure the respondent's subjective norm about adult education. Nor does it try to measure intent to participate. Nor does it try to measure the respondents' beliefs about the utility of education, although it does look at why respondent took courses.
5. Theory of Planned Behavior *(Ajzen and Driver 1992)* ***Major emphasis*** *This is a modification of the theory of reasoned action. It includes the major constructs of that theory and adds the concept of perceived behavioral control "Perceived behavioral control" is the extent to which the respondents perceive themselves to have control over the behavior of interest.* ***Variables to measure*** ***Perceived behavioral control*** *is measured by asking the respondent the extent to which they have volition over the action in question. Examples include employer requirements, addiction, responsibilities, self-actuality measures*	NHES gets at employer requirements-but does not get into the respondent's levels of self-actuality and ability to control barriers.

3. Examples from Leisure Studies

In this section we look at two types of approaches: (1) an interdisciplinary, comprehensive model of time allocation, and (2) selected examples from the leisure constraint framework.

a. Interdisciplinary Approaches

Interdisciplinary, Sequential-Specificity, Time-Allocation, Lifetime Model (ISSTAL) (Smith and Macaulay 1980; Smith and Theberge 1987). This model attempts to incorporate all relevant social-psychological and situational variables to present an interdisciplinary understanding of participation. While the model was originally used in the field of recreation and leisure studies, it has been used in other disciplines including adult education (Cookson 1986). The model uses a wide range of explanatory variables for studying any kind of discretionary time activity. The variables considered (in order of increasing specificity) include: external contextual variables, social background and social role variables, personality traits and intellectual capacities, attitudinal dispositions (values, attitudes, expectations, and intentions), retained information (images, beliefs, knowledge, and plan), and situational variables (immediate awareness and definition of the situation) (Smith and Theberge 1987, p. 6).

The **General Activity Model** is a variant of the ISSTAL model that makes additional assumptions and predictions. It assumes that human beings adapt their bodies and characters to the sociocultural system (SCS) in which they are embedded (Smith and Theberge 1987). The model suggests that greater participation will occur for individuals having certain characteristics. The model notes that participation will be higher:

- For individuals who have more dominant, higher or more socially valued positions in various social status and role hierarchies in a given society;
- When there are co-participants;
- When the person is member of voluntary groups;
- When resource and access opportunities are greater;
- When the person is healthier; and
- When the person has more intellectual capability.

Cookson (1986) applied the ISSTAL model to adult education participation but included more explicit assumptions. The model assumes that human behavior is to some extent predictable or determined by certain identifiable and measurable aspects of both the person and environment. Cookson includes the same six categories of independent variables as Smith and Theberge (1987). Cookson notes that three features of the model made explicit in its title are of central importance: (1) interdisciplinary features; (2) sequential specificity of relationships; and (3) time allocation of life span perspective. He holds that this model includes and integrates many concepts and interrelationships developed in varied fields, such as in physiology, psychology, anthropology, political science, sociology, and adult education. Figure 2-4 is a graphic representation of the model as applied to adult education participation. The variables in the model are causally interconnected, and all but the situational variables exert influence through one or more intervening variables. The further to the left, the less specific and the more the influence will be mediated through an intervening variable and the further to the right the more the influence will be situation role specific. The time allocation life span construct involves both synchronic and diachronic covariation. This means that adult education participation has implications for other types of social participation and also patterns of adult education covary with other types of social participation. The life span feature posits that adult education participation tends to fit into broader behavioral patterns of behavior and will covary with participation in other types of socially valued behavior. The major classes of variables are:

- **Class I--External variables--** are often ignored in adult education except in cross national comparisons. In this group one would include the overall climate of support for adult education.

- **Class II--Social background and social role variables--**this group corresponds to five kinds of social demographic variables: ascribed and achieved social positions and roles; experience and activity history, resources; possessions; and access to resources. Together these influence behavioral intentions. An individual's personal history is important to this framework.

- **Class III--Personality and Intellectual capacity factors--**relatively permanent dispositions that tend to endure over time and circumstances such as extroversion, ego strength, assertiveness, efficacy, energy and activation and stimulation.

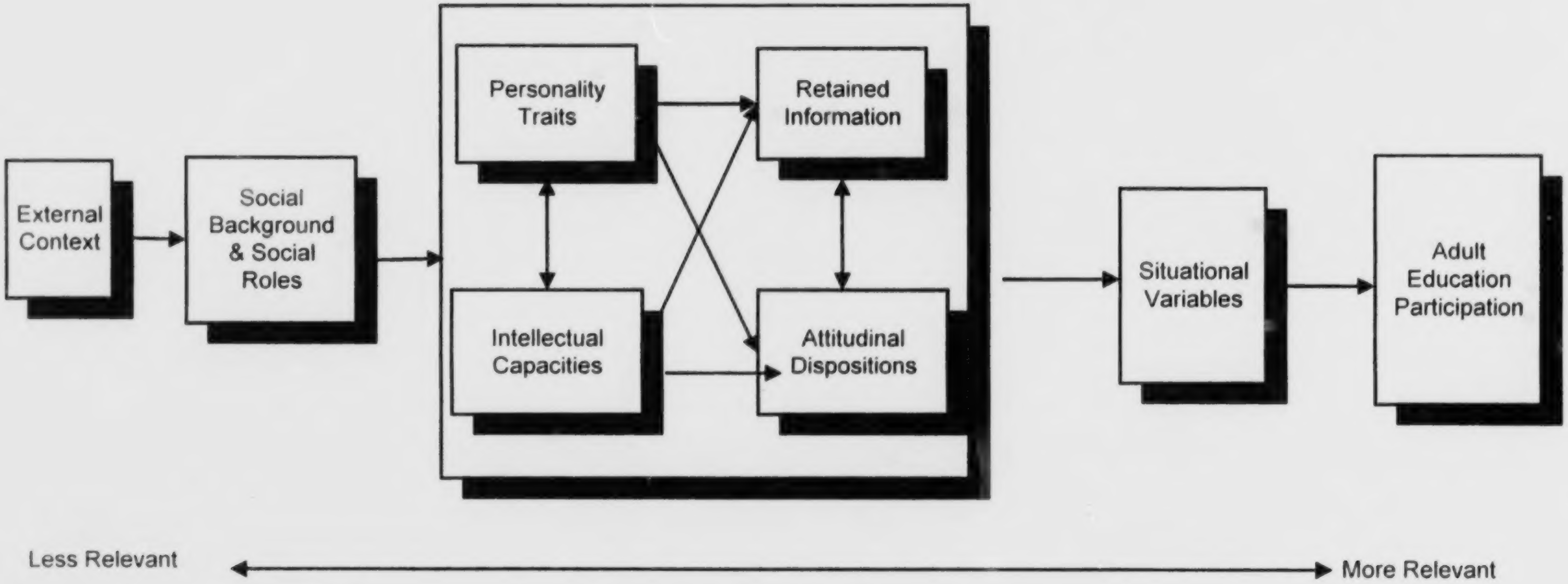
- **Class IV--Attitudinal Dispositions--**these are less enduring dispositions than personality characteristics.

- **Class V--Retained information--**continuing and enduring stock of information that is stored in the mind in the form of symbolic and non-symbolic images. It includes images, beliefs, knowledge, and plans.

- **Class VI--Situational variables--**these are the most proximal cognitive and affective determinants of human voluntary behavior and exert the most immediate effects on adult education participation. The definition of the situation refers to the individual's cognitive and emotional response to the experience/awareness of the sensory and perceptual inputs.

Implications for NHES. These models are much more comprehensive than the theory of reasoned action and attempt to explain behavior in an in-depth manner. They serve to underscore the complexity of predicting and understanding behavior.

Figure 2-4.-- Temporal/causal sequence of main ISSTAL model as applied to adult education participation



Source: Cookson, Peter S. "A Framework for Theory and Research on Adult Education Participation." Adult Education Quarterly, Vol. 36, No. 3, pp. 130-141, Spring 1986.

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They are notable for specifically including social context and social role variables, personality traits, and life span differences in one framework. The model also points out the significance of co-participants and the importance of other forms of social participation. Darkenwald and Merriam (1982) theorized that involvement in formal organizations constitutes a key element in an individual's learning press. Other forms of social participation are viewed as important predictors of adult education participation. Another key element is the importance of life events and transitions. Note is made of the fact that actual or anticipated life transitions precede motivation for a large portion of all learning projects. Cookson cites Aslanian and Brickell (1980) as having found that 83 percent of all adults sought learning in response to such triggering events as job changes, marriage, arrival of children, and retirement. The framework also raises the importance of peer groups or reference groups to participation. This theory, which includes climate of support for adult education and access issues, raises the question of whether NHES should attempt to obtain respondent's opinions about educational access in their community.

b. Leisure Constraint Frameworks

A large and diverse body of conceptual and empirical research addresses leisure constraints (Crawford and Godbey 1987; Crawford, Jackson and Godbey 1991; Alexandris and Carroll 1997; Williams and Basford 1992). In this review we include examples from two of many approaches. First we describe Crawford's hierarchical model of leisure constraint, largely as applied by Alexandris and Carroll (1997). We then briefly mention a constraint study that deals with latent demand and segmented markets (Williams and Basford 1992).

Constraints are factors that are assumed by researchers and perceived by individuals to inhibit or prohibit participation and enjoyment of a behavior (in this case, leisure). Constraints can be: (1) blocking (those which preclude participation), or (2) inhibiting (those which merely serve to inhibit ability to participate to a greater or lessor extent depending on circumstance).

A central feature of Crawford's approach is its hierarchical structure in which three major types of constraints are identified. In this perspective an individual will only encounter the second constraint after the first and the third after the second. The model suggests that the first will be most important predictor of participation. The three levels of constraints are:

1. **Intrapersonal**--constraints that involve individual psychological states and attributes which interact with preferences rather than intervening between preferences and participation—examples include depression, anxiety, religiosity, prior socialization, perceived self-skill, subjective evaluations of appropriateness and availability of activities.

2. **Interpersonal**--constraints that result from interpersonal interaction or the relationship between individual's characteristics. Interpersonal barriers interact with preferences and participation, for example, the inability to find partners.

3. **Structural constraints**--intervening factors between preferences and participation such as financial resources, facilities, services, scheduling and unavailability of opportunities.

The constraint variables measured in the research included:

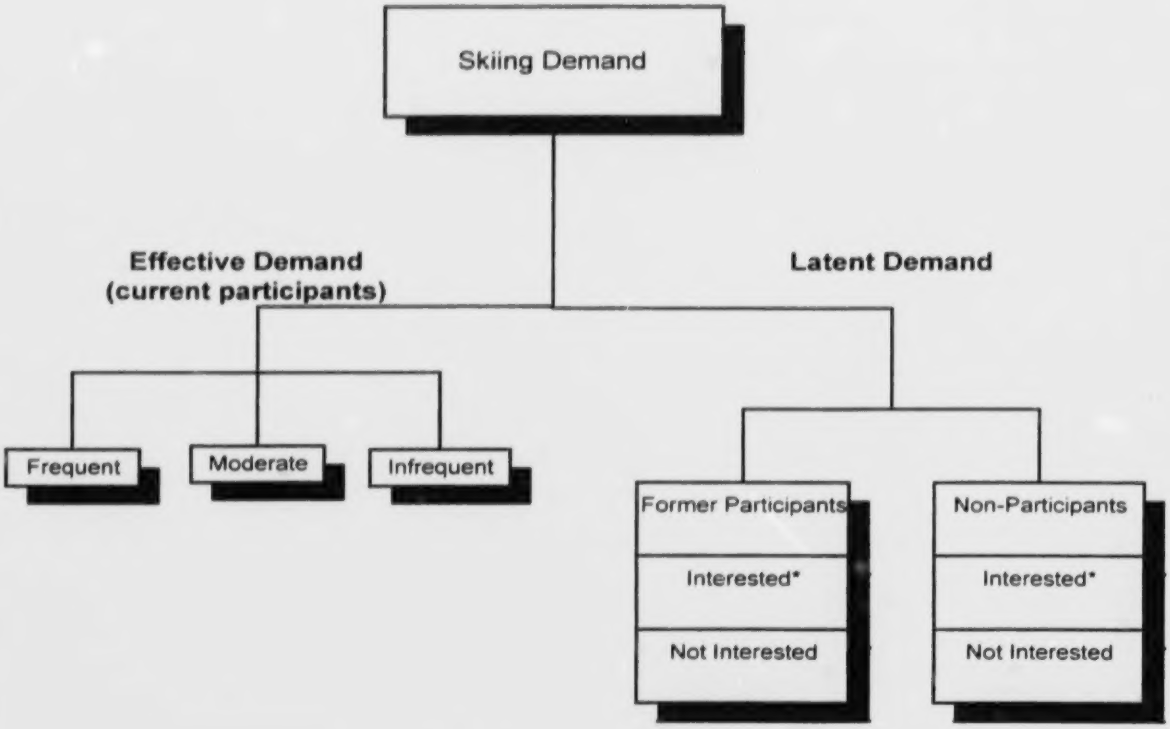
- **Individual/psychological** (feelings about, confidence, energy, happiness);
- **Lack of knowledge** (no one to teach, don't know where, not skilled enough);
- **Facilities/service** (facilities poor, crowded, inadequate, not like what offered, time schedule does not fit);
- **Accessibility** (transportation, not near home, no car, can't afford);
- **Lack of interest** (not interested);
- **Lack of partners** (friends do not have time, friends do not like, no one to participate with); and
- **Time** (family, work/studies, social commitments).

The authors (Alexandris and Carroll 1997) note that time and facilities were the most intensely experienced constraints as reported by the respondents. However, significant differences between participants and non-participants were found only on the individual/psychological, knowledge, and interest variables. This suggests that individuals who have higher levels of *intrapersonal* constraints are less likely to participate. Interpersonal and structural constraints were not related to participation. The authors concluded that if one wants to target policy to increase participation one would have to find a way to address intrapersonal issues. They note that a person is not likely to overcome these barriers alone and they suggest the importance of help from others and introductory programs. The research and framework illustrate the importance of the way persons face constraints. The same constraints may result in very different outcomes depending on intrapersonal characteristics.

c. Leisure Constraints--Latent Demand and Segmented Markets (Williams and Basford 1992)

Addressing the problem of less than full potential growth in the ski industry in recent years, Williams and Basford (1992) note the importance of considering the segmented character of the market. They note that constraints differ for participants, former participants, and non-participants, and suggest segmenting the market based the above mentioned categories. They point out that it is necessary to identify the market segments prior to addressing the barriers in a serious way. They look for latent demand that exists with former participants and non-participants. Their research attempts to identify the barriers that must be overcome before more people will participate. In this case, barriers were cost, fear of injury, and difficulty. While this is not by any means a theory of participation, (figure 2-5) we include it here because it points up two important concepts of interest—latent demand and segmented market—both of which are of interest in considering and understanding barriers to adult education. Exhibits 2-3 to 2-5 summarize the selected leisure studies frameworks.

Figure 2-5.-- Model of skiing demand



*Focus of Study

Source: Williams, Peter W. and Richard Basford. "Segmenting Downhill Skiing's Latent Demand Markets." American Behavioral Scientist, Vol. 36, No. 2, pp. 222-235, 1992.

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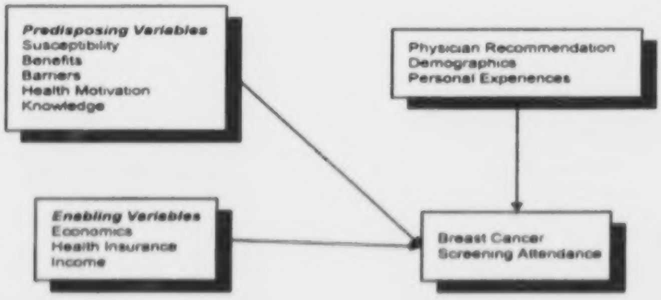
4. Example from Health

In our review of participatory behavior we found examples of applications of the theory of reasoned action (Michels, Taplin, Carter, and Kugler 1995.) Another model used in an empirical study reviewed was the ***Behavioral Model of Health Service Use*** (Anderson 1975, cited in Champion et al. 1997). This model includes two major categories of variables: predisposing and enabling variables. Predisposing variables include attitudes and experiences that relate to the behavior of interest. This includes susceptibility, benefits, barriers, motivation, and knowledge. Beliefs are considered predisposing variables in this model. The other group, enabling variables, relates to the ability the person has to complete the act and includes such things as having health insurance, income level, and economics. As part of the predisposing variables they include the opinions of significant others (in this case a doctor's recommendation) and also the person's own past experience and demographic profile. This set of factors (perceptions related to predisposing, enabling, and past experience or social normative) are in some ways similar to the theory of planned actions attitudes/beliefs, social normative, and behavioral control. Figure 2-6 is a graphic representation of this model. The model has the advantage of being simple, yet encompasses many of the aspects covered in more complex formulations. A major point of emphasis is the person's own assessment of the situation combined with that of significant others.

Figure 2-6.-- Anderson's behavioral model



Source: Champion, Victoria, Celette Sugg Skinner, Anna M. Miller, Robert J. Goulet, and Kim Wagler. "Factors Influencing Effect of Mammography Screening in a University Workplace." Cancer Detection and Prevention. Vol. 21, No. 3, pp. 231-244, 1997.

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Exhibit 2-3.--Examples of conceptual frameworks: interdisciplinary leisure studies

Framework	***NHES Notes***
6. ***Interdisiciplinary, Sequential-Specificity, Time-Allocation, Lifetime (ISSTAL) Model*** *(Smith and Macaulay 1980; used by Cookson 1986 in adult education)* ***Major emphasis*** *Attempts to incorporate all relevant social-psychological and situational variables. Focus includes situational, personal, and lifespan variables. Focus on 6 classes of independent variables.* ***Variables to measure*** ***External social, historical and contextual factors****- population, physical, cultural, social structure* ***Social background and social role factors****- health, birth order, gender, age, race, religion, employment, discretionary time, marital status, family composition, life cycle and family roles, geographic roles, nationality* ***Socioeconomic status and co-participant status****- education, social class, occupation, resource and access factors, occupational role, co-participant status* ***Experiences and Activities (patterns of behavior and experience with directly related actions)*** ***Personality and intellectual capacity factors*** *(extroversion, ego strength, emotional stability, assertiveness, sense of efficacy, need for prestige or prominence, morality and altruism, flexibility, energy level, deliberate, stimulation need, self actualization, practicality)* ***Attitudinal dispositions*** *(values, general attitudes to behavior, specific attitudes to behavior, expectations, intentions)* ***Retained information*** *(past information about behavior)* ***Situational variables*** *(opportunities, chance encounters, knowledge of actions, awareness of possibilities)*	Model points out the complexity of predicting and understanding behavior. Note importance of social context variables, personality traits, life span differences Significant others coparticipants
7. ***General Activity Theory*** *(Smith and Theberge 1987; Cookson 1986, 1987)* *Application of the ISSTAL model; predicts behavior based on the ISSTAL variables* ***Major emphasis*** *Suggests a particular patterning of variables with regard to discretionary social participation.* ***Variables to measure*** *Suggests that greater participation will be observed:* *For individuals who have more dominant or higher more socially valued positions in various social status and role hierarchies in a given society* *Participation will be higher when there are co-participants* *Higher when person is member of voluntary groups* *Higher where resource and access opportunities are greater* *Greater when healthier* *Greater when more intellectual capability*	Note importance of peer group or reference group to participation. Access issues could be covered and have policy relevance. Should NHES address policy issues of access and public's perception of adequacy of opportunities?

Exhibit 2-4.--Examples of conceptual frameworks: leisure studies constraint framework

Framework	***NHES Notes***
8. Leisure Studies Constraint models *(Crawford and Godbey 1987; Crawford, Jackson and Godbey 1991, Alexandris and Carroll 1997; Williams and Basford 1992)* ***Major emphasis*** *Constraints are factors that are assumed by researchers and perceived by individuals to inhibit or prohibit participation and enjoyment of a behavior (in this case leisure)*	Barriers can mean different things depending on context and person
Constraints can be (1) Blocking (those which preclude participation) or (2) Inhibiting (those which merely serve to inhibit ability to participate to a greater or lessor extent depending on circumstance) ***Hierarchical concept of constraints within decision making process*** *1.* ***Intrapersonal*** *constraints involve individual psychological states and attributes which interact with preferences rather than intervening between preferences and participation—examples include depression, anxiety, religiosity, prior socialization, perceived self-skill, subjective evaluations of appropriateness and availability of activities* *2.* ***Interpersonal*** *constraints are result of interpersonal interaction or relationship between individual's characteristics. Barriers of this sort interact with preferences and participation-for example inability to find partners*	NHES has focused on one part of the structural constraints and not on intrapersonal or interpersonal-could explore the possibility of incorporating items in this approach into lists of possible barriers
3. ***Structural*** *constraints intervening factors between preferences and participation such as financial resources, facilities, services, scheduling and unavailability of opportunities* *Suggests a hierarchy in which only encounter the second after the first and the third after the second. Suggests that the first will be most important predictor of participation* ***Variables to measure*** ***Individual/psychological****- feelings about, confidence, energy, happy* ***Lack of knowledge****- no one to teach, don't know where, not skilled enough* ***Facilities/service****- facilities poor, crowded, inadequate, not like what offered, time schedule does not fit*	Note knowledge and interest are often considered as constraints or barriers in theories. NHES excluded those without knowledge and interest from questions on barriers. Might reconsider this approach
Accessibility*- transportation, not near home, no car, can't afford* ***Lack of interest****- not interested* ***Lack of partners****- friends do not have time, friends do not like, no one to participate with* ***Time****- family, work/studies, social commitments*	Note overlap of NHES general and specific barriers: time and family are part of same factor here
Note*: Time and facilities most intensely experienced constraint. However, significant differences between those who participated and did not participate were found only on individual/psychological, knowledge, and interest-suggesting that individuals who have higher levels of intrapersonal constraints are less likely to participate. Interpersonal and structural constraints were not related to participation. This suggests that if want to target will have to find way to address intrapersonal. Not likely to overcome alone. Suggests that help of others and introductory programs needed* *Importance of the way persons face constraints/persons face same constraints differently depending on intrapersonal*	Might consider asking constraint or barriers of both participants and non-participants. Consider using a more scaled approach

Exhibit 2-5.--Examples of conceptual frameworks: leisure studies and health

Framework	*NHES notes*
9. Leisure constraints-latent demand and segmented markets *(Williams and Basford 1992)* ***Major emphasis*** *Can look at activity-specific barriers or look at segments of population* *Constraints confronting participants, former participants, and non-participants are different* *Segmented based on previous involvement* *Identification of market segments so can address their barriers* *Look for latent demand that exists with former participants and non-participants. Attempts to identify the barriers that must be overcome before will get to participate. In this case they were cost, fear of injury, and difficulty.*	This work points up that there may be utility in looking at prior participation experience And in differentiating markets
10. Behavioral Model for Health Services Use *(Anderson 1975, cited in Champion et. al. 1997)* ***Major emphasis*** *Looks at 2 major categories of variables to explain behavior:* ***Predisposing and Enabling.*** ***Variables to measure*** ***Predisposing variables****- are attitudes and experiences that relate to the behavior under consideration and include perceptions of need, benefits, barriers, health motivation, and knowledge.* *Also important as predisposing variables are recommendations of significant others (for example physician) and person's past experience* ***Enabling variables****- are those that would allow a person to act if so inclined.* ***Enabling variables*** *include economic variables, insurance, and income*	Note the importance of person's perceptions of situation, role of social norms, and personal cost benefit evaluation Note: NHES does not include persons assessment of need or motivation

5. Examples from Adult Education

In this section we give an overview of several of the major conceptual frameworks that model adult education participation. We draw heavily on two prior review articles--Scanlan's 1986 review *Deterrents to Participation* and Wikelund, Reder, and Hart-Landsberg's 1992 work, *Expanding Theories of Adult Literacy Participation.* The reader is referred to these documents for additional information on the historical development of theories in this area.

Early Models. In exhibit 2-6 we present summary information from early adult education participation theories that draw impetus from social psychology and social field theory. With regard to NHES we note that these theories also stress the importance of changes in life roles in decision to participate in adult education, and that changes to life circumstances such as layoff or fear of layoff, divorce, and parenting can be a motivator as well as a barrier.

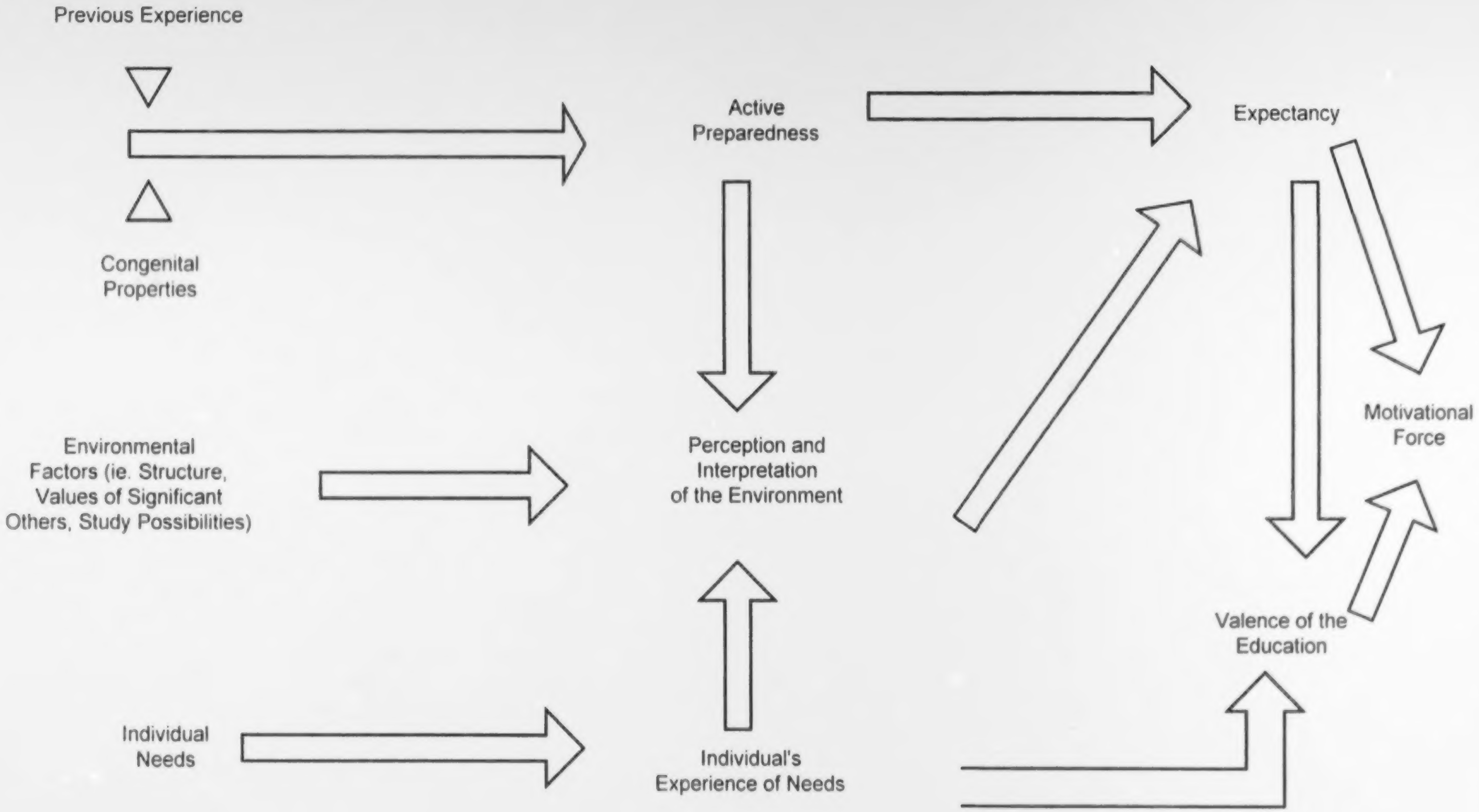
Some of the earliest theoretical work on adult education was done by Knox and Videbeck (1963), who developed what has been termed a Theory of Patterned Participation (Scanlan 1986, p. 3). Variations in participation are attributed to integration of a person's subjective orientation toward participation and the "objective organization of one's lifespace," which was said to comprise (1) a person's role and status configuration; (2) the availability of opportunities to participate, and (3) personal and environmental restraints affecting one's participatory alternative. Knox and Videbeck also argued that participatory behavior was influenced by changes in life circumstances. Thus, overall, this framework incorporates psychological, social, and situational antecedents in explaining adult education participation.

One "early" theory (Miller 1967) drew on Kurt Lewin's field theory and described educational activity (or inactivity) as a result of the interaction between personal needs and social structures. The importance of technology as a social motivator for increased education is also noted in this framework. While not discussed in this model, technology can also be the source of more self-teaching and withdrawal from organized classes for knowledge and information transmission. This points up the possible need for NHES to measure self–teaching, use of multiple technologies, or learning through means other than classes.

Often-cited frameworks. Three major frameworks that are often cited in the literature are Rubenson's *Recruitment Paradigm (1977)*, Cross's *Chain-of-Response Model (1981)*, and Darkenwald and Merriam's *Psychosocial Interaction Model (1982)*.

Rubenson's Recruitment Paradigm- (1997, see figure 2-7 and exhibit 2-7). This model focuses more on the perceptual than structural components of an individual's life. It is a cognitive approach that suggests deterrents to participation should be conceptualized in terms of their perceived (rather than actual) frequency or magnitude of influence. Participation is contingent upon the interaction of various personal and environmental variables operating in an individual's life. Personal variables include: prior experience, personal attributes, and current needs. Environmental factors include: degree of "hierarchical structure" of the individuals lifespace (control over one's situation), norms and values of individual's and reference groups, and available educational possibilities (institutional factors). The personal and environmental variables do not themselves explain behavior. Rather, the influence of these variables on behavior is mediated by the individual's responses to them. This response in turn gives rise to intermediate variables. Intermediate variables include: active preparedness, perception and interpretation of environment, and experience of individual needs. The intermediate variables interact with each other to determine the perceived value of educational activity (valence) and the probability of being able to participate in and/or benefit from this activity (expectancy). The paradigm is sometimes called an expectancy-valence approach (information on Rubenson's model from Scanlan 1986; and Wikelund, Reder and Hart-Landsberg 1992).

Figure 2-7. -- Rubenson's recruitment model


Previous Experience
Congenital Properties
Active Preparedness
Expectancy
Motivational Force
Environmental Factors (ie. Structure, Values of Significant Others, Study Possibilities)
Perception and Interpretation of the Environment
Valence of the Education
Individual Needs
Individual's Experience of Needs

Source: Adapted from Rubenson in Scanlan, Craig L. *Deterrents to Participation: An Adult Education Dilemma.* Information Series No.308. ERIC Clearinghouse on Adult, Career, and Vocational Education, Columbus, Ohio. Sponsoring Agency: Office of Educational Research and Improvement (ED), Washington, DC. 1986.

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Chain-of-Response Model (Cross 1981) (see figure 2-8 and exhibit 2-7) . In this model, an adult's participation in a learning activity is not an isolated act but is the result of a complex chain of responses based on the evaluation of the position of the individual in their environment (Scanlan 1986). Responses leading to participation tend to originate within the individual, as opposed to outside forces. The main concepts are self-evaluation (represented by A in the figure) and attitude toward education (represented by B in the figure). It assumes that the components of participatory behavior can best be understood and articulated by the individual making the decision. Cross orders the variables from internal psychological variables to external factors. Social and environmental and/or experiential factors, which are antecedents to one's self-concept and dispositional orientation toward outside objects, impinge upon the concepts of self-evaluation and attitude. The internal psychological variables interact with and influence the valence attributable to, and the expectancy associated with, a participatory act (represented by C in the figure). The expectancy and valence associated with a participatory act are also influenced by life transitions and developmental tasks that confront the individual in various life cycle phases (represented by D in the figure). The individual responds to the relevant opportunities and barriers associated with the pursuit of an educational opportunity (represented by E in the figure). The extent to which the opportunities and barriers affect the likelihood of participation is partly determined by the differential effect of motivation upon the individual's perception of these variables and the information available for decision making (represented by F in the figure).

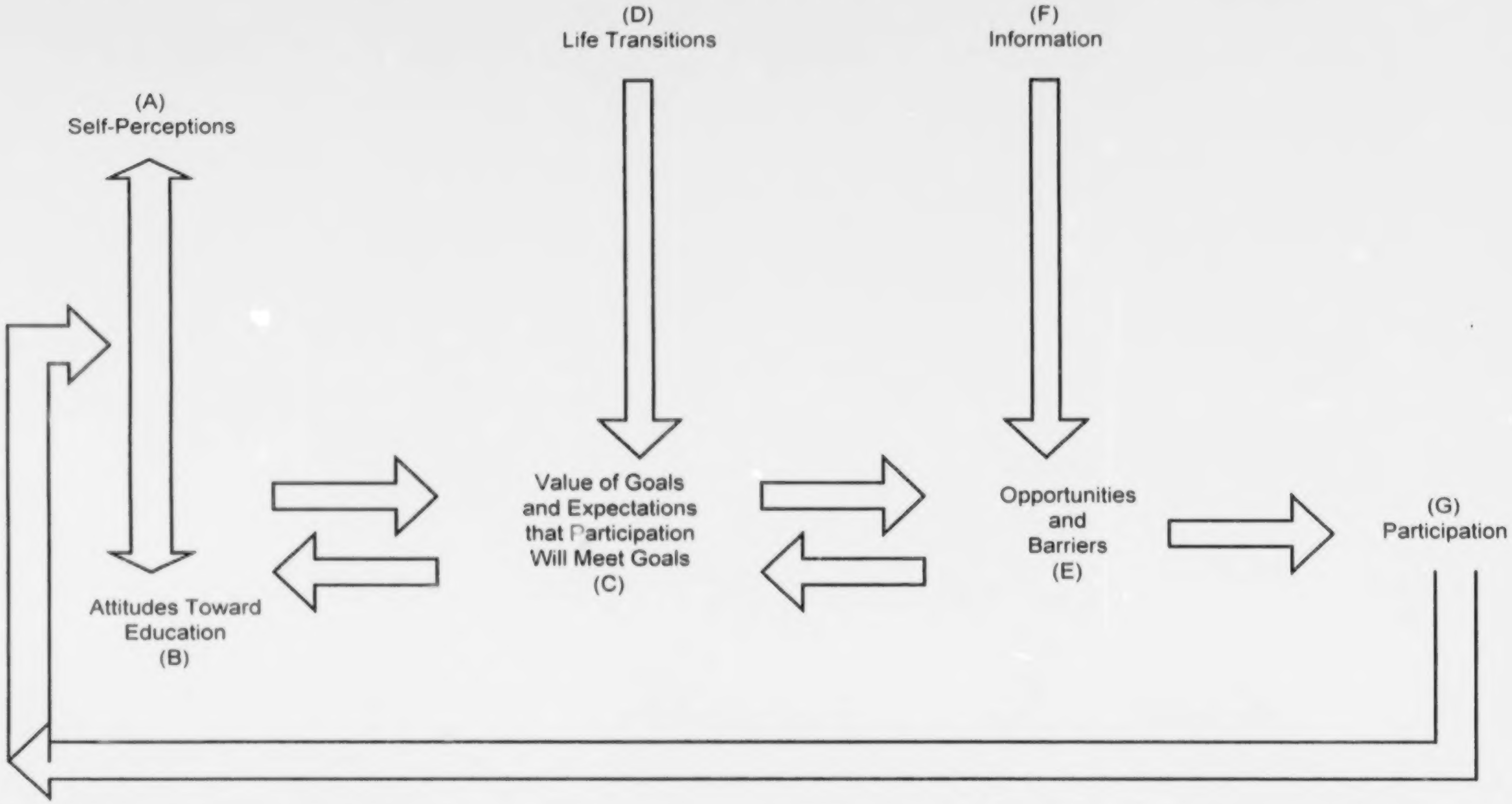
Cross also formulated a barriers structure consisting of:

1. Situational--those that arise from one's situation in life at a given point;

2. Institutional--those practices and procedures that exclude or discourage adults from participating in organized learning activities; and

3. Dispositional--those related to the attitudes and self perceptions about one-self as a learner (information on Cross's model from Scanlan 1986; and Wikelund, Reder and Hart-Landsberg 1992).

Figure 2-8. --Cross's chain-of-response model


(D)
Life Transitions
(F)
Information
(A)
Self-Perceptions
Value of Goals and Expectations that Participation Will Meet Goals
(C)
Opportunities and Barriers
(E)
(G)
Participation
Attitudes Toward Education
(B)

Source: Adapted from Cross in Scanlan, Craig L. *Deterrents to Participation: An Adult Education Dilemma.* Information Series No.308. ERIC Clearinghouse on Adult, Career, and Vocational Education, Columbus, Ohio. Sponsoring Agency: Office of Educational Research and Improvement (ED), Washington, DC. 1986.

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Psychosocial Interaction Model (Darkenwald and Merriam 1982). This model conceptualizes participatory behavior as a set of responses to internal and external stimuli (see figure 2-9 and exhibit 2-8). The model emphasizes socioeconomic status factors as being the strongest determinants of adult participatory behavior. The effect of socio-economic status on participation is mediated by the "learning press," which is the extent to which one's environment requires or encourages further learning. This concept of learning press has been regarded as important by others in the field (Wikelund, Reder, and Hart-Landsberg 1992). A person's learning press fosters certain attitudes and perceptions about the value and utility of adult education. The relationship between socioeconomic status and learning press are elements in differences in general social participation, occupational complexity, and lifestyle. The greater the perceived value of adult education, the more favorable one's disposition or readiness for it is. The likelihood of participation is further conceived as dependent upon the perceived frequency and intensity of participation stimuli. The final elements of participatory behavior considered are barriers to participation which include: situational, institutional, psychosocial, and informational barriers.

As can be seen from figure 2-9, barriers to participation are listed as the seventh and final component of the theory. Instead of Cross's three types of barriers there are four in this framework: situational, institutional, psychosocial and informational. The expanded concept of psychosocial barriers emphasizes the potential learner's possibly negative attitude toward the utility, appropriateness and pleasurability of engaging in education activities. In part, this is influenced by socio-economic factors.

In subsequent work, Darkenwald and others developed the Deterrents to Participation Scale (DPS-G), originally used to study health professionals in New Jersey. This scale identified 6 key deterrent factors:

1. Disengagement (inertia, apathy, negative attitudes);
2. Lack of quality (dissatisfaction with quality of educational opportunities);
3. Cost;
4. Family constraints;
5. Lack of benefit (doubts about worth and need for participation); and
6. Work constraints.

Subsequently, the scale was refined to include six general factors:

1. Lack of confidence;
2. Lack of course relevancy;
3. Time constraints;
4. Low personal priority;
5. Cost; and
6. Personal and family.

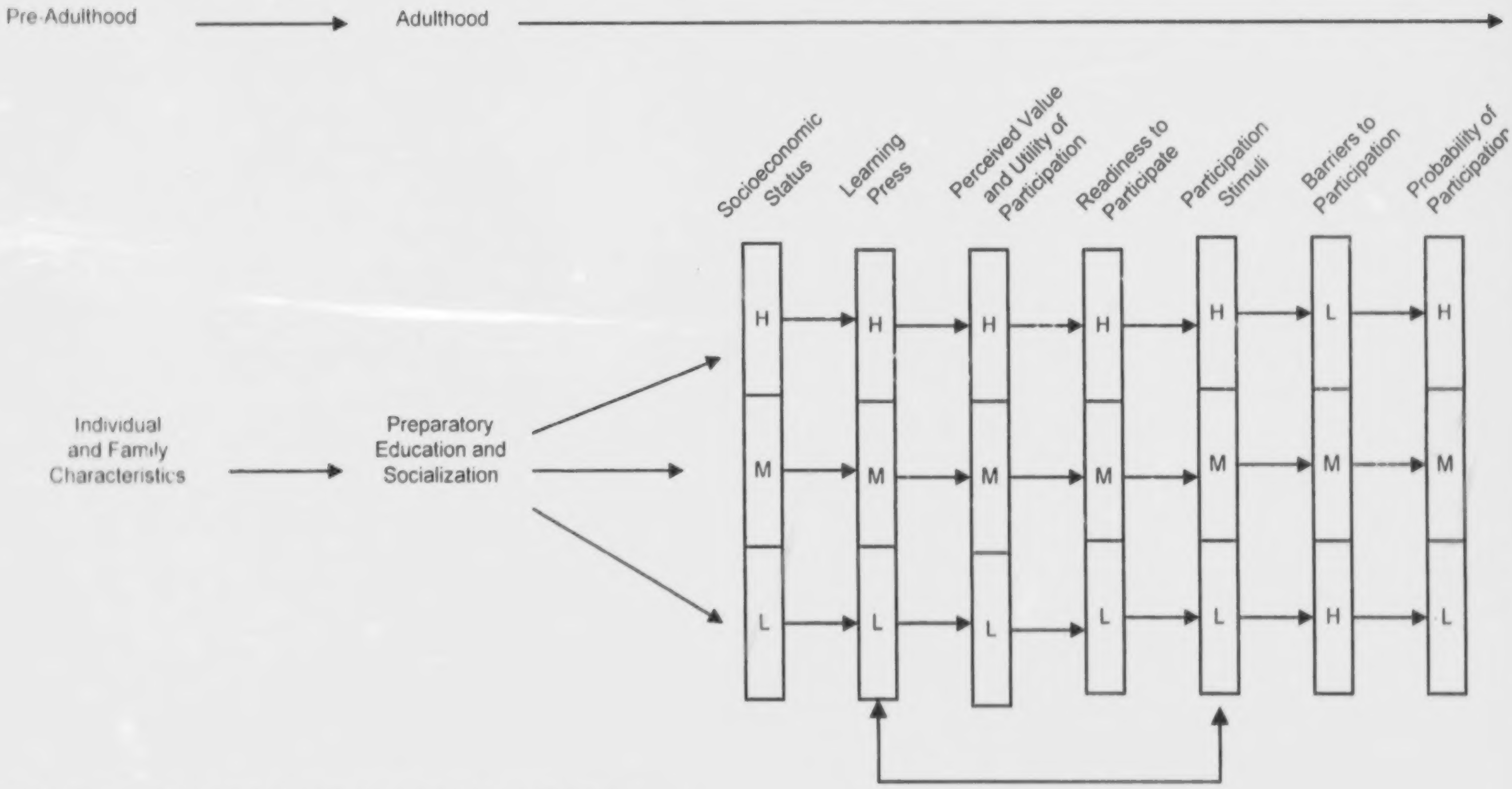
In a synthesis work reviewing several theories of deterrents to participation in adult education, Scanlan (1986) concluded that:

- "Deterrents" is a multidimensional concept encompassing clusters of variables;
- The variables are influenced by the prospective learner's perceptions of their perceived magnitude; and
- The impact of these variables varies according to the individual's characteristics and life circumstances.

This monograph identified eight categories of deterrence factors:

1. Individual and family or home related problems;
2. Cost concerns;
3. Questionable worth, relevance or quality of educational opportunities;
4. Negative educational perceptions, including prior unfavorable experiences;
5. Apathy or lack of motivation;
6. Lack of self confidence;
7. A general tendency toward non-affiliation; and
8. Incompatibilities of time and/or place.

Figure 2-9. -- The psychosocial interaction model


Pre-Adulthood
Adulthood
Individual and Family Characteristics
Preparatory Education and Socialization
Socioeconomic Status
Learning Press
Perceived Value and Utility of Participation
Readiness to Participate
Participation Stimuli
Barriers to Participation
Probability of Participation
H
M
L

Note: H indicates "High," M indicates "Medium," and L indicates "Low."
Source: Darkenwald and Merriam in Scanlan, Craig L. *Deterrents to Participation: An Adult Education Dilemma.* Information Series No.308. ERIC Clearinghouse on Adult, Career, and Vocational Education, Columbus, Ohio. Sponsoring Agency: Office of Educational Research and Improvement (ED), Washington, DC. 1986.

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Building on the work of Fishbein and Ajzen, Cross, Darkenwald, and others, Henry and Basile (1994) graphically present the factors affecting enrollment in adult education courses (see figure 2-10 and exhibit 2-8). The variables they examine include the demographic characteristics of the target population, reasons for enrolling, sources of information regarding the courses, course attributes, various deterrents, and institutional reputation.

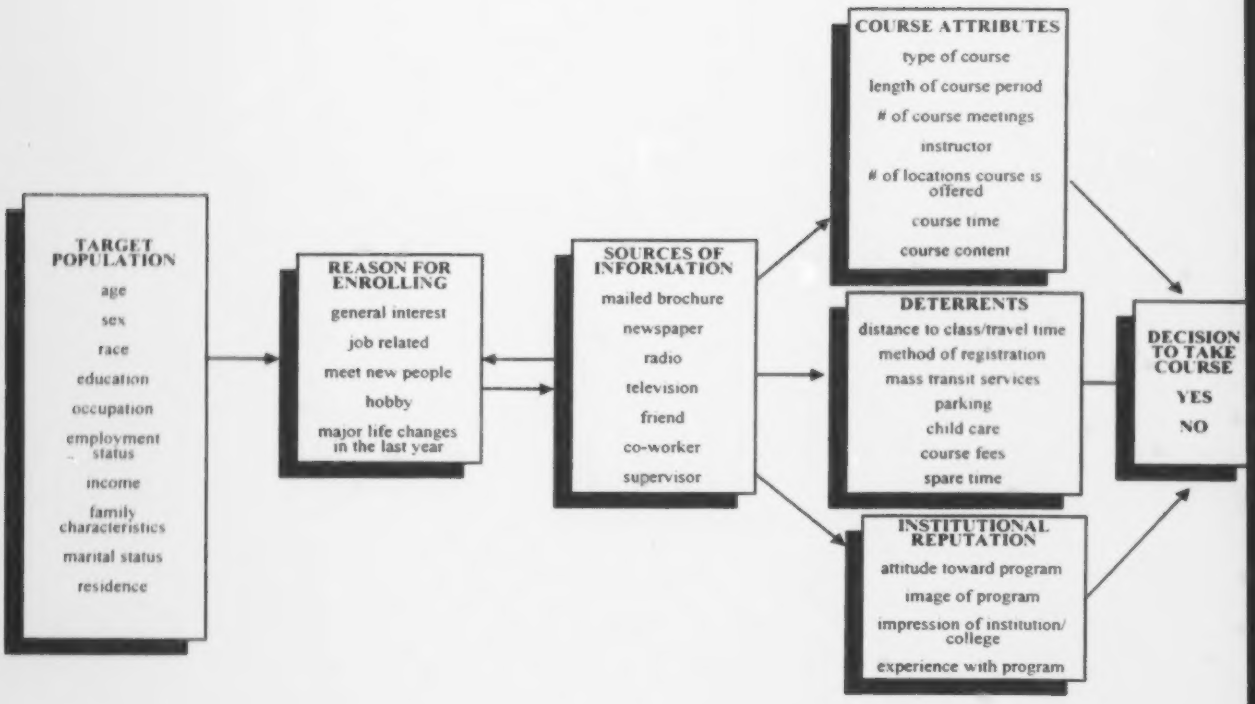
Considerations with relation to NHES. If one considers the items on NHES relative to the variables implied by these theories of adult education participation, one of the most obvious facts is that NHES primarily looks at situational barriers and does not really deal with institutional or dispositional barriers. Examination of Rubenson's recruitment model points up the importance of dispositional variables, past subjective experience with education, and reference group behavior in a decision to participate. None of these aspects are well-covered in NHES questions.

In Cross's Chain-of-Response model the importance of the potential participant's self-esteem/evaluation and life transitions are stressed. Both the Rubenson and Cross models stress the importance of opportunities available. This brings to mind the issue of respondent's perceptions of the extent to which they have opportunities and information available. These factors may be more under a policy makers control than the other types of barriers. The Chain-of-Response model implies that one's motivation affects one's perception of barriers and opportunities as well as shifts the balance from opportunity to barrier and vice versa.

Darkenwald's framework stresses the importance of socioeconomic factors and NHES collects considerable information in this regard. NHES does not deal directly with the concept of "learning press," however, some of the questions on reasons for participation, credential seeking, employer requirements, fear of layoff, reflect the extent to which the respondent is experiencing learning press. NHES also does not directly measure the respondents' subjective evaluation of the utility of education or participatory readiness. However, some more objective measures of utility can be obtained from the employment and earnings information.

Looking at the specific barriers identified by Darkenwald in his scale, we see that NHES:95 only includes three of the six factors mentioned (3, 4 and 6). Looking at the factors listed by Scanlan in his review, we see that NHES:95 includes only items 1, 2 and 8. The NHES:95 survey also mixes the factors in the listing of specific variables (see chapter III discussion).

Figure 2-10.-- Factors affecting the decision to enroll in formal adult education



Source: Henry, Gary T. and Kathleen C. Basile. "Understanding the Decision to Participate in Formal Adult Education." Adult Education Quarterly, Vol. 44, No. 2, pp. 64-82, Winter 1994.

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Exhibit 2-6.--Examples of conceptual frameworks: early adult education

Framework	***NHES Notes***
11. Life Cycle/Role early theories *(Knox and Videbeck 1963)* ***Major emphasis*** *Focus on adult life cycle as related to participation* *View educational activities as one of number of related "participatory" domains defined as cluster of participatory acts and social relationships related to life role. Variations in participation are related to interaction of subjective orientation toward participation and the objective organization of a person's life space. Participatory behavior responsive to changes in life circumstances* ***Variables to measure*** *Measurement of variables related to life space* *Organization of life space defined as: (1) one's role and status configuration; (2) availability of participatory opportunities and (3) personal and environmental strictures or restraints influencing one's participatory alternatives* *Importance of change in life circumstances*	Note importance of life roles in decision to participate in adult education. Changes to life circumstances such as layoff or fear of layoff, divorce, and parenting can be motivator A number of the factors listed as barriers can also be motivators-for example-a child to support; desire for more money, relocation.
12. Adult-Education- adaptation of Lewin's Field Theory Force-Field Analysis *(Miller 1967)* ***Major emphasis*** *Use of Lewin's field theory. Educational activity is behavioral outcome of interplay between personal needs and social structures (class value systems, technological change, association structures).* ***Variables to measure*** *Measure both personal need variables and social structures (class values, technology, association structures)* *When both personal need and social structures drive to get education likelihood high; when personal need drives to get education but social structure support is low participation will be erratic or non-existent. When personal need low and social structure high then may not persist; when personal need and social structure support are opposed then conflict*	Note: Importance of technological change factors Technology both social motivator for increased education and can also be source of more self teaching and withdrawal from organized classes for knowledge and information transmission. Points up the possible need for NHES to measure self teaching and technology use to self teach adults or learning through means other than classes.

Exhibit 2-7.--Examples of frameworks from the expectancy valence perspective: adult education

Framework-Adult Education	***NHES notes***
*13. **Expectancy-Valence Perceived Opportunity Recruitment Paradigm** (Rubenson 1977)* ***Major emphasis*** *Linked to cognitive motivational theory* *Expectancy-belief that certain actions will lead to certain outcomes.* *Valence-value positive, neutral, or negative a person places on outcome.* *This is a cognitive approach which views perceptual components as more important determinants than structural ones.* ***Variables to measure*** ***Personal variables** that include prior experience, personal attributes, current needs related to developmental tasks that confront person in a life cycle.* ***Environmental variables** include control over one's situation, norms and values of individual and reference groups, available study possibilities* *The variables cannot in and of themselves explain participation. Model represents that the influence is mediated by the individual's response to meaning resulting in active preparedness, perception and interpretation of the environment and experience of needs. These interact to determine the perceived values (valence) of activity and the probability of being about to participate and the expected benefit from it (expectancy). Power of expectancy and valence that ultimately determines the motivation to participate.*	Theory points up importance of dispositional, past subjective experience with education, and reference group behavior in decision to participate. None of these aspects are well covered in NHES questions. Uses a utility approach but it is the person who gives the values.

Exhibit 2-7.--Examples of frameworks from the expectancy valence perspective: adult education—(continued)

Framework	***NHES notes***
*14. **Chain-of-Response Model** (Cross 1981)* ***Major Emphasis*** *This is a composite model that represents adult participation as a result of complex chain of responses to environmental conditions as perceived by individual. It also uses the concepts of expectancy and valence. In this model internal variables interact with and influence the expectancy and valence associated with participation. There is explicit recognition of life transitions.* *Depending on combined motivational force of variables, the individual interacts with opportunities and barriers associated with educational activity being considered.* ***Variables to measure*** *The model begins with (A) self concept and (B) attitude to education . Antecedent to and impinging upon A and B are social environmental factors. These internalized factors then interact with (C) expectancy associated with participation and this is further acted on by (D) life transitions. The decision to participate is acted on by (E) the concrete opportunities and barriers and (F) the information one has for decision making.* *Cross also formulated a barriers structure consisting of* *1. Situational-those that arise from one's situation in life at a given point* *2. Institutional those practices and procedures that exclude or discourage adults from participating in organized learning activities* *3. Dispositional-those related to the attitudes and self perceptions about one-self as a learner*	Note: importance of self esteem/evaluation and also life transitions Note: brings to mind issue of looking at whether opportunities presented themselves. Did person perceive they had opportunities and information. These are more subject to policy control than most of the barriers Notes that one's motivation affects one's perception of barriers and opportunities as well as shifting the balance from opportunity to barrier and vice versa. Note: NHES primarily looks at situational barriers and does not really deal with institutional or dispositional barriers.

Exhibit 2-8.--Example of conceptual frameworks: adult education psychosocial model

Framework	***NHES Notes***
15. ***Psychosocial Interaction Model*** *(Darkenwald and Merriam 1982)* ***Related articles:***(*Darkenwald and Valentine 1985; Scanlan and Darkenwald 1984;Martindale and Drake 1989)* ***Major emphasis*** ▪ *Participatory behavior as a set of responses to internal and external stimuli that are presented as a linear continuum of 7 constructs (see figure).* ▪ *Socio-economic status (SES) is the first and most dominant variable in the continuum. The impact of SES is mediated by a number of other factors.* ▪ *The second concept is that of a "learning press." This is the extent to which environment requires or encourages further learning. Other factors are attitudes and perceptions about value and utility of education, general readiness for social participation, and barriers to participation . The interrelationship of these factors is important in determining the probability of participation.* ▪ *Barriers to participation are listed as the seventh and final component of the theory and instead of Cross's three there are four: situational, institutional, psychosocial and informational.* ▪ *The expanded concept of psychosocial barriers emphasizes the potential learner's possibly negative attitude toward the utility, appropriateness and pleasurability of engaging education activities. In part this is influenced by socio-economic factors.*	NHES collects extensive SES information NHES does not deal with the "learning press" issue directly, nor does it try to measure the respondents subjective evaluation of utility of education, or participatory readiness However some "objective" measures of utility-benefit might be derivable from income and job tenure variables
Variables to measure ***Key deterrent variables****:* *Subsequent work on the Deterrents to Participation Scale (DPS-G) –Used with health professionals in New Jersey-Identified 6 deterrent factors:* *1. Disengagement (inertia, apathy, negative attitudes)* *2. Lack of quality (dissatisfaction with quality of educational opportunities)* *3. Cost* *4. Family constraints* *5. Lack of benefit (doubts about worth and need for participation)* *6. Work constraints* *Later work listed 6- General Factors:* *1. Lack of confidence* *2. Lack of course relevancy* *3. Time constraints* *4. Low personal priority* *5. Cost* *6. Personal*	NHES attempts of measure only a portion of the barrier factors found important numbers 3, 4, and 6 NHES also mixes the factors in the listing of specific variables
Survey item reliability was .86 *Related study added lack of encouragement and course convenience to the list (Martindale and Drake)*	Encouragement of reference group or peers dealt with

Exhibit 2-8.--Example of conceptual frameworks: adult education psychosocial model—
(continued)

Framework	*NHES Notes*
16. Psychological Framework *(Henry and Basile 1994)* ***Major emphasis*** *Comprehensive framework of participation in adult education, combining psychological theory and deterrents. Stress the complexity of the individual's decision to participate. They looked at a sample of motivated participants and non-participants in adult education classes at a university. They found that interest in adult education is mostly motivated by work-related reasons and not by general interest reasons, consistent, they say, with rational, utility maximizing behavior.* ***Variables to measure*** ▪ *Type of motivation-work related or general social reasons, learning for own sake, etc.* ▪ *Sources of information about the courses- mailed brochures, friends, co-workers, supervisor, radio, television or newspaper advertisements, etc.* ▪ *Course attributes- type of course, length or course period, number of meetings, instructor, location, time of course, and content.* ▪ *Institutional deterrents- time and costs, distance to class, travel time, availability of parking or transit, etc.* ▪ *Institutional perception- the feeling the individual has about the organization offering the courses, attitude about the organization, experience with the organization, etc.* *Demographic characteristics of the target population also likely have an effect on participation.*	NHES asks reasons why took course; does not look at information sources or course attributes. Does look at institutional deterrents; does not look at institutional perception.

6. Examples of Frameworks from Theories of Change

A number of the frameworks we have reviewed have stressed the importance of life cycles changes and also of life changing events as triggers for adult education participation. We briefly note two approaches that look at change or the links between change and learning. One is taken from the educational literature (Mezirow 1992, 1994, 1996) and the other from health (Myers and Roth 1997).

Many working in the field of adult education recognize that for some potential adult learners, meaningful participation in adult education requires a form of change or transformation. Mezirow, working in the area of adult basic education developed a general theory of change that he has called transformation theory (1996, 1994, 1992). This is a postmodern theory that views learning as a communicative process. It is a "process of using a prior interpretation to construe a new or a revised interpretation of the meaning of one's experience in order to guide future action" (1996, p. 162). The theory holds that beliefs guide action. When the beliefs that guide actions fail or become problematic, our frames of reference may be transformed and learning can occur as individuals critically reflect on their assumptions and beliefs. Mezirow views transformation theory as an emancipatory theory of learning where "through critical reflection, we become emancipated from communication that is distorted by cultural constraints on full free participation in discourse" (1996, p.165).

Based on empirical work, Mezirow describes the process of transformational learning and identifies phases of critical learning (1994, p. 224):

1. A disorienting dilemma;
2. Self-examination with feelings of guilt or shame;
3. Critical assessment of assumptions;
4. Recognition that one's discontent and the process of transformation are shared and others have negotiated a similar change;
5. Exploration of options for new roles, relationships, actions;
6. Planning a new course of action;
7. Acquiring knowledge and skills for implementing one's plans;
8. Provisionally trying out new roles;
9. Renegotiating relationships and negotiating new relationships;
10. Building competence and self-confidence in new roles and relationships; and
11. A reintegration into one's life on the basis of conditions dictated by one's new perspective.

According to Mezirow (1994), transformative learning is central to the purpose of adult education. Adult development means the progressive realization of an adult's capacity to fully and freely participate in rational dialogue, to achieve a broader, more discriminating, permeable, and integrative understanding of experience as a guide to action (p. 224).

Transtheoretical Model of Behavior Change. In the field of health, a number of approaches deal with stopping behaviors that are unhealthy such as addictions or changing behavior patterns to include health promoting activities such as exercise (DiClemente 1993; Marcus and Owen 1992; Prochaska and DiClemente 1984). The transtheoretical model developed by Prochaska and DiClemente 1984) and applied by Myers and Roth (1997) is one example of related recent research in this area. It depicts behavior change as a process involving a progression through a series of five stages. The stages are: precontemplation (no recognition of a need for change), contemplation (consideration of change), preparation (making a commitment to change), action (implementing the change), and maintenance (avoidance of relapse to pre-change behavior). Individuals in the precontemplation stage reported more barriers to behavior change than benefits, whereas those in the action stage reported more benefits (p. 277). A feature of this research is that it attempts to measure perceived benefits and barriers in a parallel fashion with 24 barrier items and 24 benefit items making up the Benefits and Barriers to Exercise (BBE) scale.

Implications for NHES from Change Theories. The concept of transformational life decisions is clearly very important in understanding adult education participatory behavior, and has also been a feature of a number of the frameworks described under other headings. It is not immediately obvious, whether this concept would be fruitful to explore through survey items, or how this would be done. One area to explore might be the extent to which persons who do not continue their education have considered so doing, whether they had plans to do so in the future, and why they have not done so. Also of interest is what made them consider doing so and what might have led to their seeking additional education? These topics are not easily measured, however.

7. Examples from Drop-Out and Attrition Frameworks

There is a huge amount of work and conceptual thinking in the area of student persistence and we only mention two frameworks here, one a systems theory approach in the area of adult education (Garrison 1988) and the other a model of student departure from college (Tinto 1975, 1993). These seemingly diverse frameworks cover many of the same dimensions that have been apparent in the other frameworks discussed.

A Systems Approach to Understanding Dropping Out. Garrison (1988) draws on systems theory to derive certain concepts and factors for testing in empirical research. He attempts to put forth a comprehensive theory and stresses that such a theory must consider three different phenomena: nonparticipation, participation, and dropping out. He points out the value of a deductive approach. He notes that an inductive approach may be influenced by social desirability factors present in a survey as well as ego sustaining rationalizations about why a person dropped out of school. Through systems theory he arrives at a typology of factors from which survey items were developed. Following Buckley (1967), he views learners as complex adaptive organizations of interacting components with an internal source of tension. The organizational whole is engaged in continuous transaction with varying internal and external environments. It is a holistic view in which the system (learner) is an organization reflecting alternatives and corresponding constraints. Change and stability of the adult learners behavior can be understood using broad classes of variables: motivations (intrinsic and extrinsic) capabilities, and constraints (intrinsic and extrinsic). He defines each of these:

1. **Motivations** are the combinations of intrinsic and extrinsic forces resulting from need and attitudinal dispositions that manifest themselves in behavior to initiate change.

2. **Internal motivations** examples-need to achieve and persist.

3. **External motivations** internalized tensions resulting from the expectations of others in environment.

4. **Capability** internal cognitive structure of individual that is responsible for adaptation to forces of change and stability of system.

5. **Constraints** are attributes and structures that may restrict the system's ability to adapt to systemic forces. Constraints are those barriers and dispositions which impede the individuals ability to cope.

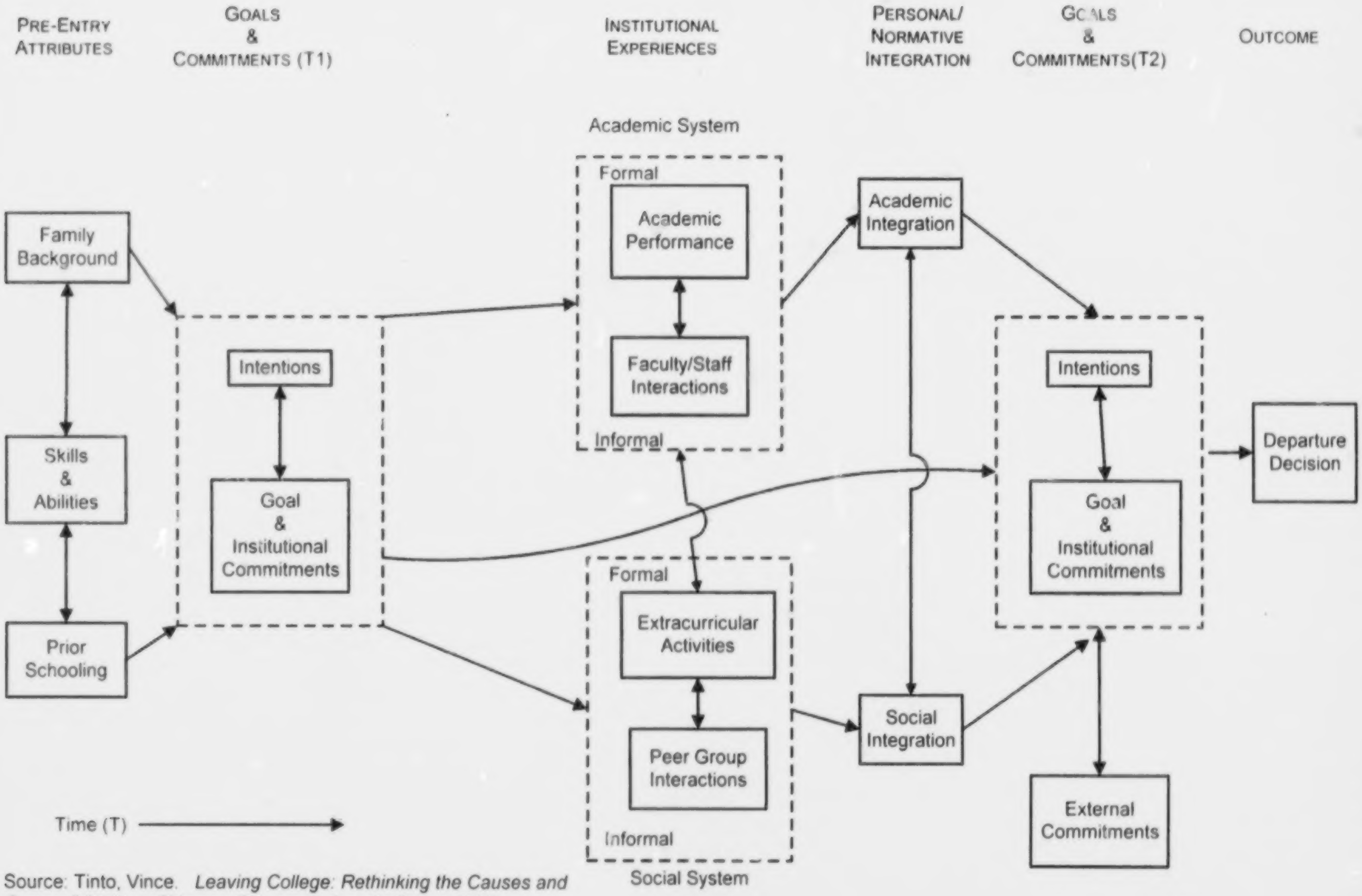
6. **Intrinsic constraint** is self concept.

7. **External constraint** includes life changes, financial concerns, time available.

This perspective is consistent with other approaches that look at internal and external motivations, capacities/opportunities, and constraints.

Tinto's Model of Institutional Departure (1975, 1993). This model is one of the most often cited frameworks for understanding student attrition. See figure 2-11 for a graphical representation of the model. The model assumes that students enter educational institutions with various patterns of personal, family, and academic characteristics and goals. The institutional environment they enter includes the institution mission, administration, staff, faculty, student services, and quality of student-instructor and student-student interaction. The greater the compatibility between the student and the institution, the greater the probability that the student will continue. In this model the student's goals at entrance and after the college experience are important. Two key concepts are academic and social integration. Integration refers to the extent to which the individual shares the normative attitudes and values or peers and faculty in the institutional and abides by the formal and informal structural requirements for membership in the community. In this framework the central variables to measure include: family background, skills and abilities, prior schooling, intentions, goals, academic performance, faculty staff interactions, peer interactions, extracurricular activities, academic integration, social integration, intentions, commitment to institution, external commitments.

Figure 2-11. -- Institutional Departures



Source: Tinto, Vince. *Leaving College: Rethinking the Causes and Cures of Attrition.* Chicago: Chicago University Press, 1993.

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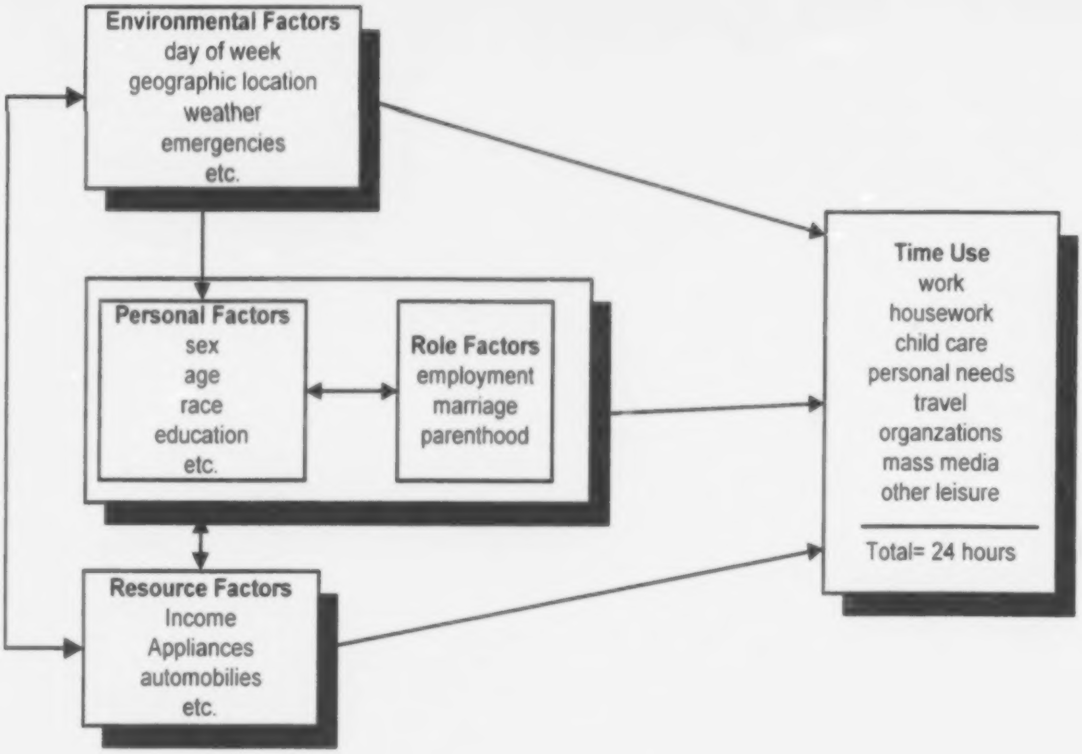
8. Example from Time Allocation Literature

A very different way of approaching the topic comes from those looking at 24 hour time allocation (Robinson 1977; Robinson, Andreyenkov, and Patrushev 1989). We have seen from our discussion above that time is a basic dimension to thinking about discretionary participatory behavior. This framework stresses both the inherently fixed characteristic of time (there are 24 hours in a day), and that a person's perception of the amount of time they have for various activities is subjective. We have seen that time is usually listed as a major barrier to more participation in a variety of worthwhile endeavors and it has been identified as of critical importance in the economic framework. As well, it is one aspect that has definite bounds and has gained increasing value.

The focus of this work is highly descriptive and comparative, but figure 2-12 gives a graphic representation of Robinson's (1977) social-psychological perspective on time allocation (see also exhibit 2-9). Time is portrayed as determined by four sets of factors: personal, social role, resource and environmental. Personal factors are said to be the "most basic" (p. 27). The four sets of factors are mutually interacting. Personal factors, such as sex, age, race, attitudes, and education, are closely linked to social role requirements that people have. Social role factors include employment, marriage, parenthood. Social role factors interact with environmental and resource factors. Environmental factors include: day of week, geographical location, weather, emergencies, etc.. Resources include not only income, but things such as appliances or automobiles which affect time use. Environmental factors are seen as a constraint on time use, for the most part. Whereas resources are seen as enabling more options for using time. Time itself is an important dimension and a person's perception of how much free time they have may vary widely and may be important in decision making (Robinson, 1977). While personal factors did not prove as much a predictor in differences in time allocation as anticipated, those with more education were more likely to report using free time in active pursuits.

In later work, crossculutral comparisons were done with the Soviet Union (Robinson, Andreyenkov, and Patrushev 1989). This work included education as one of activities reported for free time (figure 2-13). This crosscultural model attempts to link personal factors, household factors, activity patterns, and daily activities with the outcomes of satisfaction, time allocations, and lifestyle in general. In this research, education (not necessarily defined as courses) is one of the listed categories for free time, along with organization work, social life, recreation, and mass media. Each of these may be seen as competing for time allocation among respondents (Robinson et al. 1989).

Figure 2-12.-- Schematic model of factors



Source: Robinson, John. P. *How Americans Use Time: A Social-Psychological Analysis of Everyday Behavior*. NY: Praeger, 1977.

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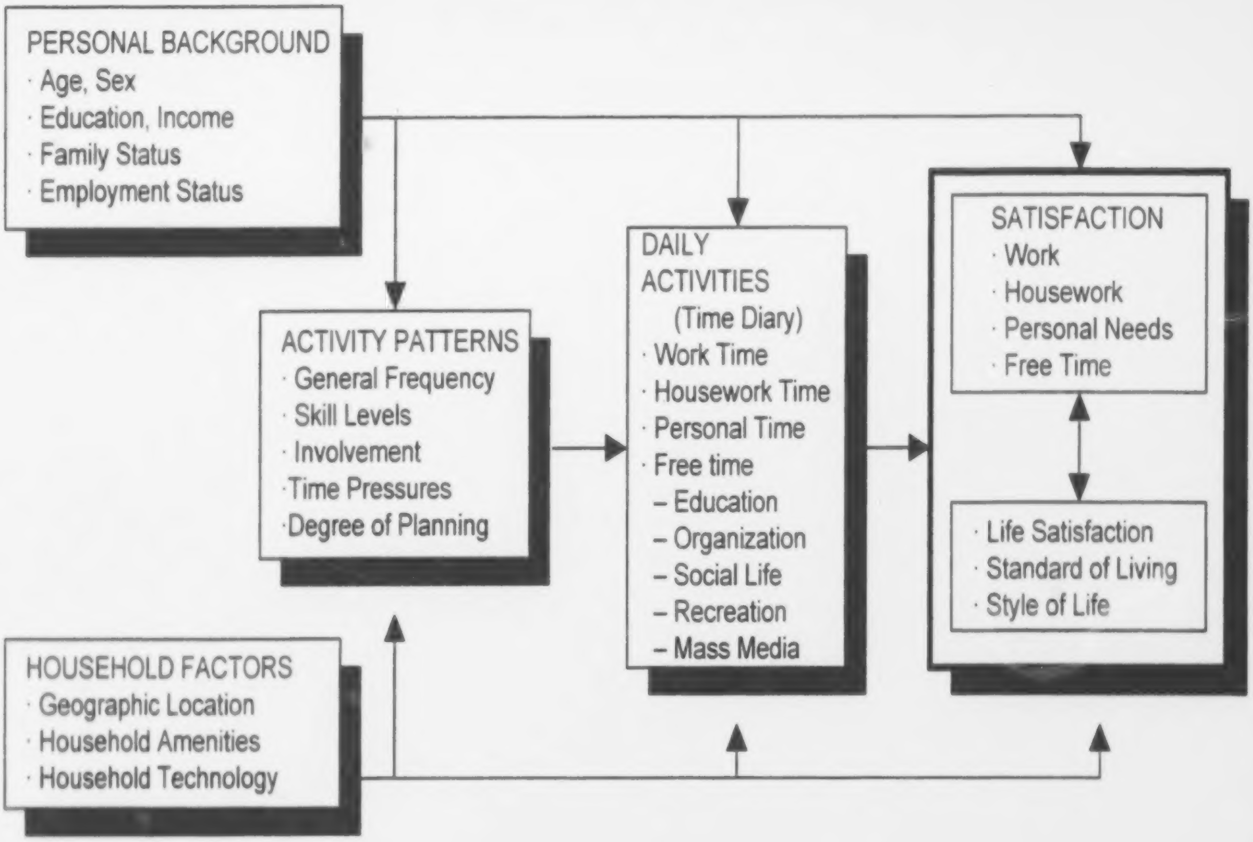
Figure 2-13.--A general model connecting the various study variables



Robinson, John P., Vladimir G. Andreyenkov, and Vasily D. Patrushev. *The Rhythm of Everyday Life: How Soviet and American Citizens Use Time.* Boulder, CO: Westview Press, 1988.

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Exhibit 2-9.--Example of conceptual frameworks: time allocation literature

Framework	*NHES Notes*
17. ***Time allocation model*** *(Robinson 1977; Robinson, Andreyenkov, and Patrushev 1989).* ***Major Emphasis*** *Time is of a fixed nature- it has bounds. It has also increased in value. A person's perception of the amount of time they have for activities is subjective. 4 main categories of variables as affecting a person's perception of time.* ***Variables to measure*** ▪ *Personal- basic demographic characteristics, attitudes and education.* ▪ *Social Role- employment, marital and childbearing status.* ▪ *Resources- income, appliances (eg. Automobile)* ▪ *Environmental- day of week, geographic location, weather, etc.* *Resources tend to be enabling variables—creating more time. Environmental variables tend to constraining variables—restricting time.* *Personal factors interact with social role factors; social role factors interact with environmental and resource factors.*	Education is one of many possible activities competing for free time allocation.

Exhibit 2-10.--Example of conceptual frameworks: theories of change

Framework	*NHES notes*
18. Education/Constructivist *(Mezirow 1992, 1994, 1996)* ***Major emphasis*** *Transformation Theory- Learning as a social process of construing and appropriating a new or revised interpretation of the meaning of one's experience as a guide to action.* ***Variables to measure*** *Identifies phases of critical learning* ▪ *A disorienting dilemma* ▪ *Self-examination with feelings of guilt or shame* ▪ *Critical assessment of assumptions* ▪ *Recognition that one's discontent and the process of transformation are shared and others have negotiated a similar change* ▪ *Exploration of options for new roles, relationships, actions* ▪ *Planning a new course of action* ▪ *Acquiring knowledge and skills for implementing one's plans* ▪ *Provisionally trying out new roles* ▪ *Renegotiating relationships and negotiating new relationships* ▪ *Building competence and self-confidence in new roles and relationships* ▪ *A reintegration into one's life on the basis of conditions dictated by one's new perspective.* *This framework emphasizes that transformative learning is central to what adult education is all about. Adult development means the progressive realization of an adult's capacity to fully and freely participate in rational dialogue, to achieve a broader, more discriminating permeable and integrative understanding of experience as a guide to action*	This line of thinking might posit the question-what factors have contributed to a person's contemplating or deciding to return to school after dropping out or stopping? It might also pose the question of reasons for career shifts? Some of these issues are covered in the NHES items about reasons for attending. But the NHES items do not explore the idea that there may have been some precipitating or transformational events. NHES could look at latent demand. Has the person in the past considered obtaining more education? Why the person did or did not do this? What percent of the population without college degree has contemplated starting or finishing if dropped out of college?
Example of Change Conceptual Framework from Health	***NHES notes***
19. Transtheoretical Model of Behavioral Change *(DiClemente 1993; Prochaska and DiClemente 1984; Myers and Roth 1997)* ***Major Emphasis*** *Taken from Myers and Roth (1997) adaptation* *Applied to exercise behavior change as progressing through a series of stages-pre-contemplation, contemplation, preparation, action and maintenance.* *Perceptions vary depending on stage.* ***Variables to measure*** *Major life changing events, meaning perspectives (predisposition from psychocultural assumptions), meaning scheme (concept, belief, judgment and feeling)* *Research looks at both benefits and barriers together and notes that in the pre-action stages more barriers are perceived than later.* *The benefits were in the areas of social, psychological, body image and health* *The barriers were time-effort, physical, social, and specific* *The authors have developed a scale of both benefits and barriers together Benefits and Barriers to Exercise-this scale has been validated with test-retest method.*	Note link of benefits and barriers in one survey scale allows for looking at the process in which a person weighs the costs and benefits of a certain action. One could compare views at different times, some before engage in behavior and some afterwards. Could explore the stages of decision making and idea of preparedness or readiness.

Exhibit 2-11.--Example of conceptual frameworks: adult education dropouts

Framework	***NHES notes***
20. Systems Theory –Deductively Derived Factors *(Garrison 1983, 1988)* ***Major emphasis*** ***Comprehensive theory*** *of adult education participation must consider nonparticipation, participation, and dropout.* *Development of typology of factors that is deductively derived from systems theory. Value to deductive approach in that inductive may be influenced by social desirability factors present in survey that asks for reasons why-ego sustaining rationalizations about why dropped out.* *View learners as complex adaptive organization of interacting components with an internal source of tension, the whole engaged in continuous transaction with varying internal and external environment (Buckley 1967)* *Holistic view the system (learner) is an organization reflecting alternatives and corresponding constraints.*	This theory argues for deductive approach to developing question items, using a theory to guide, rather than asking respondents to list items and then developing list.
Variables to measure *Change and stability of the adult learners behavior could be understood using broad classes of variables; motivations (intrinsic and extrinsic) capabilities, and constraints (intrinsic and extrinsic)* ***Motivations*** *are the combinations of intrinsic and extrinsic forces resulting from need and attitudinal dispositions that manifest themselves in behavior to initiate change.* ▪ ***Internal motivations*** *examples-need to achieve and persist* ▪ ***External motivations*** *internalized tensions resulting from the expectations of others in environment* ***Capability****-internal cognitive structure of individual that is responsible for adaptation to forces of change and stability of system* ***Constraints*** *are attributes and structures that may restrict the system's ability to adapt to systemic forces. Constraints are those barriers and dispositions which impede the individuals ability to cope.* ▪ ***Intrinsic constraint*** *is self concept* ▪ ***External constraint****-life changes, financial concerns, time available* *Research used variety of scales to measure and used factor analysis to arrive at the 5 factors (Internal constraint, external motivation, capability, external constraint, internal motivation found related to participation)*	Note importance of motivations, capabilities, and constraints. Note internal and external dimensions to motivations and to constraints. Factors have been validated in empirical research

Exhibit 2-12.--Example of conceptual frameworks: college student attrition

Framework	***NHES notes***
21. Model of Institutional Departure *(Tinto 1975; 1993)* ***Major emphasis*** *Seeks to explain college student attrition. Students enter educational institutions with various patterns of personal, family, and academic characteristics and goals. The institutional environment they enter includes the institution mission, administration, staff, faculty, student services, and quality of student-instructor and student-student interaction. Greater the compatibility between the student and the institution the greater the probability that the student will continue.* *Compatibility explained by two key concepts:* ***Academic and social integration key concepts*** *Integration refers to the extent to which the individual shares the normative attitudes and values or peers and faculty in the institution and abides by the formal and informal structural requirements for membership in community* ***Variables to measure*** ▪ *Family background* ▪ *Skills and abilities* ▪ *Prior schooling* ▪ *Intentions* ▪ *Goals* ▪ *Academic performance* ▪ *Faculty staff interactions* ▪ *Peer interactions* ▪ *Extracurricular activities* ▪ *Academic integration* ▪ *Social integration* ▪ *Commitment to institution* ▪ *External commitments.*	Note Importance of "integration" as concept in mediating persistence Also concept of compatibility and fit of institution with student

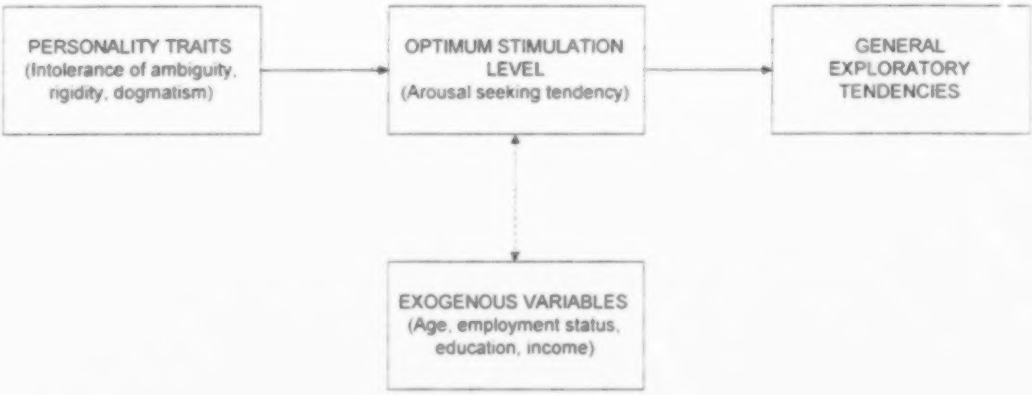
9. Frameworks from Consumer Choice Behavior

In this section we note two frameworks from research in the area of consumer choice behavior. These are the *Optimum Stimulation Level* framework (Hebb 1955, cited in Raju 1980; Leuba 1955, cited in Raju 1980; Raju 1980; Steenkamp and Baumgartner 1992*)*, and the *Behavioral Perspective Model of Purchase and Consumption* (Foxall 1992).

The Optimum Stimulation Level (OSL) framework argues that every organism prefers a certain level of stimulation, which may be termed "optimum stimulation" (Hebb 1955, cited in Raju 1980; Leuba 1955, cited in Raju 1980; Raju 1980). As noted by Raju (1980), this concept came into psychology both out of an attempt to integrate learning theories (Leuba 1955, cited in Raju 1980) and studies of the central nervous system (Hebb 1955, cited in Raju 1980). It puts forth the idea that when the environmental stimulation is below optimum an individual will attempt to increase stimulation; when it is above the optimum level s/he will strive to reduce it (Raju 1980). The magnitude of OSL leads to attempts to adjust stimulation from the environment. These attempts to modify the stimulation from the environment can be termed "exploratory behavior." OSL has been hypothesized to be related to selected personality traits, demographic variables, and exploratory tendencies. In general those with high OSL will engage in more exploratory behavior than those with low OSLs. Figure 2-14 is a diagram of the framework of these relationships. In this framework, personality traits such as tolerance for ambiguity, risk taking orientation, and dogmatism are important in distinguishing OSL levels and exploratory behavior tendencies. Income and education are also seen as positively related to OSL levels. Others have hypothesized that most people prefer intermediate levels of stimulation, but that there are reliable individual differences in the amount of stimulation considered optimal by a given person (Steenkamp and Baumgartner 1992). The basic notion of OSL frameworks is that the relationship between stimulation obtained from the environment or through internal means and a person's affective reaction to stimulation follows an inverted U-shaped function, with intermediate levels of stimulation perceived as the most satisfying (Steenkamp and Baumgartner 1992). A distinction is made between a person's actual stimulation level and his or her OSL. It is the discrepancy between current and ideal levels that results in attempts to reduce or augment stimulation (Steenkamp and Baumgartner 1992). A number of related behaviors are studied—curiosity-motivated behavior, variety seeking, risk taking and innovative behavior. A number of scales have been developed to measure these constructs such as the Arousal Seeking Tendency Scale (Mehrabian and Russell 1973, cited in Raju 1980), Change Seeker Index (Garlington and Shimota 1964, cited in Raju 1980), Novelty Experiencing Scale (Pearson 1970), Sensation Seeking Scale (Zuckerman 1979).

Recently the concept of optimum stimulation has been used by those seeking to understand the motivation for World-Wide-Web use and their implications for advertising and educational activities (Riley 1997). The educational stimulation provided by media and web opportunities may have an impact on rates and use of adult education.

Figure 2-14. -- Framework of relationships


PERSONALITY TRAITS
(Intolerance of ambiguity, rigidity, dogmatism)
OPTIMUM STIMULATION LEVEL
(Arousal seeking tendency)
GENERAL EXPLORATORY TENDENCIES
EXOGENOUS VARIABLES
(Age, employment status, education, income)

Source: Raju, P.S. "Optimum Stimulation Level: Its Relationship to Personality, Demographics, and Exploratory Behavior." Journal of Consumer Research. Vol. 7, December 1980, pp. 272-282.

The Behavioral Perspective Model of Purchase and Consumption (BPM) derives from the behavior analysis of B. F. Skinner (1953 cited in Foxall 1992) as applied to consumer research. It assumes that human behavior is a function of the environment (Skinner 1977, cited in Foxall 1992). It explains the rate at which responses recur by reference to the consequences they have produced in the past. The perspective is contrasted with cognitive decision making models. Cognitive models assume that purchasing will be the outcome of goal-directed information processing in which the consumer sets objectives, plans achievement, and intentionally deploys resources to secure desired benefit. In contrast the behavioral perspective provides a means of conceptualizing situational and contextual influences on consumer behavior. In this perspective purchasing is considered "approach behavior with both reinforcing and punishing consequences." There are outcomes that are likely to increase the behavior being repeated and others that have an inhibiting effect.

This perspective incorporates a continuum of relatively open/relatively closed behavior settings and the bifurcation of reinforcement into hedonic and informational consequences of behavior. Closed behavior settings are those in which the researcher or marketer can control the contingencies that shape the behavior. Open behavior settings are those over which there is little control. The distinction between closed and open behavior settings is based on the relative ease with which behavior can be brought under contingency control. In this perspective reinforcers for humans are broader than for animals and may be either informational or hedonistic. Hedonic reinforcement refers to strengthening of behaviors through the generation of fantasies, feelings, fun, amusement, arousal, sensory stimulation and enjoyment (Holbrook and Hirschman 1982 as cited in Foxall 1992). Informational reinforcement does not refer to the provision of information per se. It is specific feedback on the individual's performance or achievement that has implications for the rate at which the performance continues. "The essence of informational reinforcement is that it helps consumers solve problems posed by the web of contingencies to which their learning histories have brought them." Figure 2-15 outlines this framework. There are four classes in which consequences of consumer behavior can be divided. These are accomplishment, pleasure, accumulation, and maintenance (figure 2-16).

NHES Implications

These frameworks bring to mind several concepts that may be important in understanding the decision of a person to engage or not engage in adult education behavior. The Optimum Stimulation Level (OSL) model implies that something might have to be known about the personality traits of the individual and the other avenues of stimulation available and operating at the same time that the decision about adult education participation is considered.

The BPM framework points up the importance of past behavioral experiences with education, both from a hedonistic and a performance based informational feedback perspective. If a person has learned as a child that education classes will provide little positive hedonistic or performance/information positive feedback, it is unlikely that the person will engage in extensive education activity as an adult. There may, however, be contingencies over which the person has no little control that will foster engaging or not engaging in the behavior such as employer requirements or the desire to be a better parent. Engagement in education can have achievement, accumulation, pleasure and maintenance dimensions.

Exhibit 2-13.--Example of conceptual frameworks: consumer choice, optimum stimulation level

Framework	***NHES notes***
22. Optimum Stimulation Level *(Leuba, 1955, cited in Raju 1980; Hebb 1955, cited in Raju 1980; Raju 1980; Steenkamp and Baumgartner 1992; Riley 1997)* ***Major emphasis*** *Every organism prefers a certain level of stimulation. When stimulation is below will seek to increase and when above will seek to reduce* *Behavior aimed at modifying the stimulation level can be termed "exploratory."* ***Variables to measure*** *Individual differences in optimum stimulation levels as related to:* ▪ *Personality traits especially tolerance of ambiguity, rigidity, dogmatism* ▪ *Demographic variables especially income and education* ▪ *Cultural context for exploratory behavior* *In consumer research context clusters of variables looked at include:* ▪ *Repetitive behavior proneness* ▪ *Innovativeness* ▪ *Risk taking* ▪ *Exploration through shopping* ▪ *Interpersonal communication* ▪ *Brand switching* ▪ *Information seeking* ***Results:*** *Younger, educated and employed have higher OSLs* *Those with high OSLs and low OSLs appear to be more different behaviorally than cognitively. Does this change with life cycles. Differ most with respect to risk taking* *Surveys used to measure exploratory consumer behavior : Arousal Seeking Tendency Instrument; Change Seeker Index;* *Sensation Seeking Scale; Novelty Experiencing Scale*	If adult education is viewed as a consumer item in which persons who might benefit choose or not choose to engage, this framework might be of use in understanding individual and societal rates of participating. It suggests the utility of looking at other behaviors that might be providing "stimulation." It also suggests the idea that there may be a stimulation overload on persons in a culture or sub-culture that may be a barrier to further educational participation. Note the importance of individual differences and the links to openness and risk taking behavior.

Exhibit 2-14.--Example of conceptual frameworks: consumer choice, behavioral perspective model

Framework	*NHES notes*
23. Behavioral Perspective Model (BPM) of Purchase and Consumption *(Foxall 1992; derived from Skinner (1953, 1977,* cited in Foxall 1992*)* ***Major emphasis*** *"Portrays the rate at which consumer behaviors take place as a function of the relative openness of the setting in which they occur and the informational hedonic reinforcement available in or promised by the setting."* ▪ *Purchasing is approach behavior with both reinforcing and punishing consequences, some outcomes are likely to increase the probability of its being repeated and other outcomes have an inhibiting effect (Foxall 1992)* ▪ *Note importance of concepts of approach and avoidance behaviors and situational factors* ***Variables to measure*** ***8 combinations of contingencies based on explanatory variables.*** *Setting (1)* ***open*** *or (2)* ***closed*** *Reinforcement levels for (3)* ***hedonic reinforcers*** *(those that are internal to the individual such as pleasure and satisfaction, positive affect, playful and intrinsic) and (4)* ***informational reinforcers*** *(information on the individuals performance or achievement that has implications for the rate at which performance continues. Product of external wider socioeconomic ramifications such as status, prestige, social acceptance and social significance)* *Situation related to (5)* ***accomplishment*** *is social and economic achievement and maintains behaviors such as consumption of status symbols and personal fulfillment (6)* ***pleasure*** *is the result of differing forms of popular entertainment and behaviors such as taking medication to stop pain (7)* ***accumulation*** *relates to collecting and saving and is high on information reinforcement (8)* ***maintenance*** *is the consequence of activities that involve survival such as food and social and legal obligations.* *Authors note two contributions of BPM to consumer choice theory: (1) provides means of conceptualizing situational influence on consumer behavior. This is in contrast to cognitive models that assume goal directed information processing. The BPM emphasis is on situational. (2) There is also a stress on the importance of reference to external stimuli rather than internal states and processes.*	Suggests perspective in which adult education can be viewed as a consumer choice item, whose choice may be related to specific situational approach and avoidance behaviors. Suggests the importance of past experience with education as related to open decision as to participation. If reinforcers have been negative then avoidance behavior may be the result. NHES survey design may need to identify the degree to which the choice to participate is open or closed. Also the types of hedonic and informational reinforcers likely to be relevant to consumption or purchasing education. How do dimensions of accomplishment, pleasure, accumulation and maintenance relate to choice to participate. Focus on what promotes behavior rather than on barriers.

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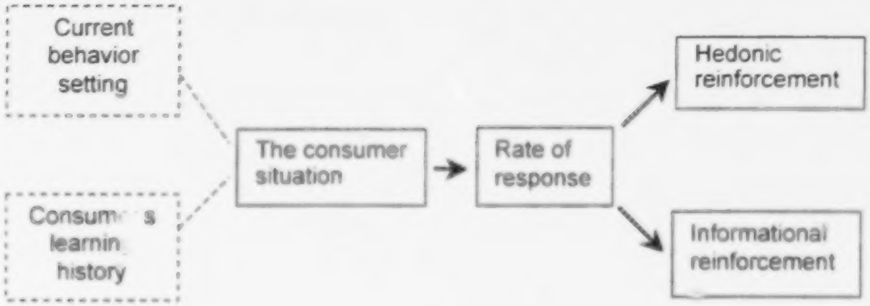
Figure 2-15.--Behavioral Perspective Model (BPM) account of situated consumer behavior



Foxall, Gordon R. "The Behavioral Perspective Model of Purchase and Consumption: From Consumer Theory to Marketing Practice." Journal of the Academy of Marketing Science., Vol. 20, No. 2, pp.189-198, 1992.

Figure 2-16.--Behavioral Perspective Model (BPM) Contingency Matrix

BEHAVIOR SETTING

relatively open ↔ relatively closed

	ACCOMPLISHMENT			
	CONTINGENCY 1	CONTINGENCY 2		
apparent schedule: VARIABLE RATIO	Extended Consumer Behavior - search & evaluation for status symbols (innovations, luxuries) - reading literary novels - watching TV documentaries etc.	Excitement & Fulfillment - casino gambling - personal development training (e.g., est) - religious training - (e.g., Scientology auditing etc.)	high informational reinforcement	high hedonic reinforcement
	PLEASURE			
	CONTINGENCY 3	CONTINGENCY 4		
apparent schedule: VARIABLE INTERVAL	Popular Entertainment - watching TV game/variety show or 'happy news' - listening to popular music - watching pop music video etc.	Inescapable entertainment/ Alleviation of Personal Pain - watching in-flight movie - taking headache remedy - having hospital treatment etc.	low informational reinforcement	
	ACCUMULATION			
	CONTINGENCY 5	CONTINGENCY 6		
apparent schedule: FIXED RATIO	Collecting - installment buying - Christmas club saving - collection of coupons or other tokens in connection with promotional deal, etc.	Token Economy-based Buying - accumulation of 'airmiles' - purchasing products which confer entitlement to prizes, etc.	high informational reinforcement	low hedonic reinforcement
	MAINTENANCE			
	CONTINGENCY 7	CONTINGENCY 8		
apparent schedule: FIXED INTERVAL	Routine Purchasing of Socialized Economic Necessities - supermarket grocery shopping - having dental checkup - hairdressing, etc.	Regular Mandatory Purchase/Consumption - paying taxes - buying TV license or passport - paying road/vehicle tax, motor insurance premiums, etc.	low informational reinforcement	

Foxall, Gordon R. "The Behavioral Perspective Model of Purchase and Consumption: From Consumer Theory to Marketing Practice." Journal of the Academy of Marketing Science., Vol. 20, No. 2, pp.189-198, 1992.

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C. CONCLUSION

The reviews of conceptual frameworks demonstrate a number of points and raise a number of issues that may be useful in thinking about future design of the NHES adult education component. While the frameworks differ in their emphasis and manner of organization, there is some consistency in the dimensions covered. Most demonstrate that understanding participatory behavior is complex and involves a combination of psychological, social, and economic factors. From their differing points of emphasis, the following can be learned vis a vis NHES.

- The NHES adult education component already collects many of the demographic and social background variables of most interest to the economic cost benefit or expected utility frameworks. NHES does not, however, get measures of relative expected utility, nor past case experience.

- There is a relative absence from NHES of the variables implied by a social-psychological approach. NHES has far fewer survey items that deal with motivational, intentional, normative, self actuality, attitudinal variables with regard to adult education.

- The variables in the interdisciplinary models, including external context, social roles, past experiences, retained information, and other forms of social participation, are also less developed in NHES. These frameworks, as well as the case specific economic framework, point up the importance of past experiences with education. They also note the relationship between participation in different forms of activity. Persons likely to participate in one form of activity are more likely to try other areas of participation. Another important dimension is the availability of concrete opportunities in the person's life space.

- The ideas from the leisure constraints frameworks on the potentially hierarchical nature of constraints, the role of individual differences in how constraints are viewed, latent demands, and segmented market are interesting concepts not apparent in NHES design. Participants and nonparticipants may face similar barriers, but interpret them differently. Constraints can increase motivation in some circumstances. There are a number of scales of constraints and benefits that have been developed and tested in this area that may warrant further attention.

- The adult educational models examined include many of the same concepts used as the social psychological and interdisciplinary approaches. Barriers are just one aspect of these models that attempt to explain adult education participation. NHES could decide to attempt to measure the other dimensions. With regard to barriers, NHES focuses more on situational barriers and does not look very much at institutional/opportunity, dispositional, or informational barriers (Cross 1981; Darkenwald and Merriam 1982).

- The concept of the "learning press"-- the extent to which a person's employment, work or familial environment is fostering additional education-- is important to a number of frameworks (Darkenwald and Merriam 1982).

- Among the early adult education theories, some of the force field valance-opportunity theories stress the importance of technology in determining the person's opportunity and medium for learning. This might be a fruitful area for further emphasis.

- The theories of change stress the importance of key life events and transitions, and the interpretations given to life events. These ideas are also present in the other models with less emphasis. While not easy to measure, they are important to understanding adult education participation.

- The drop-out and attrition models stress the importance of integration and participatory behavior in general, and note the importance of consistency of institutional mission/goals and the goals of the person.

- The time allocation models point up the importance of viewing adult education as just one of many competing options for a person's limited time, and raises the issue that other non-formal class related educational activities may be among those activities competing for an individual's time. These perspectives also note that the assessment of free time available may be relative.

- The consumer choice optimum stimulation level (OSL) framework notes the differences that exist, both in societies and among individuals, in what is an "optimum" level. This framework also points up in a manner similar to that of the time studies that adult education is just one source of stimulation available. Variables such as risk taking orientation and openness to innovation are important in this framework.

- The behavioral perspective model (BPM) notes the importance of open and closed settings for choice explanation and the importance of past experience with behavioral reinforcers such as experience with test results and grades and personal fulfillment. Past experience with education is important in determining whether approach or avoidance behavior will take place. How one perceives barriers may be related to past experience with reinforcers.

III. EMPIRICAL RESEARCH ON FACTORS DETERRING OR PROMOTING PARTICIPATION IN ADULT EDUCATION AND SELECTED OTHER ACTIVITIES

In chapter II, we reviewed selected conceptual frameworks that have sought to describe and explain participatory behavior. In chapter III, we shift focus from conceptual frameworks to empirical survey research. The chapter presents information from a review of empirical research studies that have addressed the issue of why people choose to participate--or not to participate--in adult education and other types of activities. This review will serve to provide information on how other researchers addressing similar research questions have chosen to formulate and structure their questions and response choices. The chapter also summarizes substantive findings from these studies on what deters or motivates the participation of various groups in various types of adult education and discusses the kinds of policy implications various researchers have drawn from their studies. Finally, we offer a few concluding observations about the studies we reviewed vis a vis the NHES barriers questions.

A. SCOPE OF REVIEW

As with the conceptual frameworks, we not only reviewed literature from the field of AE, but also looked beyond AE to see what might be learned from scholarship in other areas. We searched for relevant publications in a large and diverse set of on-line bibliographic indexes. These indexes ranged from those focused on education to those focused on aging, social sciences, psychology, sociology, criminal justice, and business, to name some examples. Given the very large number of publications available on participation in AE and other activities, as well as resource constraints, we judgmentally selected a sample of articles to review, using a few key criteria or guidelines.

- We defined AE broadly to include a wide variety of educational activities or programs in which adults might participate, such as university extension programs, continuing education courses, traditional higher or postsecondary education, and professional development workshops. We did not limit AE to the areas of adult basic education (ABE), English as a second language (ESL), preparation for the General Educational Development (GED) exam, and work-related classes.

- Because one objective of this project was to discuss technical aspects of survey research on barriers, we felt it was necessary to review original empirical studies, rather than relying on previous literature reviews, which tend to focus on substantive findings.[1] In addition, we targeted only studies that used surveys--especially those with the instruments reproduced in the publication--rather than other data collection methods, such as unstructured interviews or focus groups.[2]

- We reviewed only articles that addressed factors promoting or inhibiting participation by adults, reasoning that factors influencing why minors do or do not participate in a particular program or activity may be substantially different from those factors influencing adults.

- Because of the particular concern about the reliability of the barriers questions in the AE component of NHES:95, we focused mainly on studies addressing barriers to participation. We did not select any articles that solely addressed factors that promote, encourage, or enable participation; however, we did select articles that addressed both motivating factors and deterrents.

We reviewed 33 empirical studies. Of these, 19 studies pertained to AE, including four on ABE, one on ESL, two on higher education in general, two on work-related professional development classes, and 10 on adult or continuing education in general. From other fields we selected 14 empirical research studies dealing with a wide range of activities, including four on outdoor recreation and sports in general, one on downhill skiing, two on breast cancer screening, one on labor union activities, three on physical exercise, one on leisure activities in general, and two with a focus on arts-related leisure activities. Table 3-1 lists the studies reviewed.

Because of the limited nature and scope of the sample of articles we reviewed, the following summaries of technical issues and substantive research findings should not be interpreted as reflecting the entire body of research on factors affecting participation or nonparticipation in AE or other activities. Rather, this literature review is intended to illustrate the range and diversity of methodological approaches and analytical findings that emerge from a small selection of research studies on participation/nonparticipation. It is hoped that this illustrative review will provide interesting examples for NCES to consider in developing future versions of the AE component for NHES.

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[1] Readers interested in previous literature reviews of factors promoting or inhibiting AE participation may wish to see Aaltonen (1979), Cross (1981), Fagan (1991), Graney (1980), Kerka (1986), Lowden et al. (1990), Peinovich (1986), Rebok (1981), Rutherford (1989), Scanlan (1986), Spencer (1980), Sumner (1985), Venezky and Wagner (1994), Weinstein-Shr (1995), and Wikelund, Reder, and Hart-Lansberg (1992).

[2] Even so, some of the publications we obtained for review, especially journal articles, offered relatively few details on structural/technical issues such as exact question wording, etc.

Table 3-1.--Listing of empirical survey research studies reviewed

Adult Education Activities	Activities other than Adult Education
Adult Learners and Higher Education: Factors Influencing Participation or Nonparticipation Decisions. (Apt 1978)	*An Analysis of Leisure Constraints Based on Different Recreational Sport Participation Levels: Results from a Study in Greece* (Alexandris & Carroll 1997)
Reaching ABE Students: Lessons from the Iowa Studies (Beder, 1990a)	*Factors Influencing Effect of Mammography Screening in a University Workplace* (Champion et al. 1997)
Reasons for Nonparticipation in Adult Basic Education (Beder 1990b)	*Communication Barriers to Union Participation. Local 459 Amalgamated Clothing and Textile Workers Union* (Dowdell 1994)
Deterrents to Women's Participation in Work-Related Educational Activities (Blais, Duquette & Painchaud 1989)	*Gender-Based Analysis of Leisure Constraints* (Jackson & Henderson 1995)
Continuing Education Needs and Interests of Kansas Adults. A Statewide Survey (Central Research Corporation 1980)	*The Relationship of Perceived Benefits of and Barriers to Reported Exercise in Older African American Women* (Jones & Nies 1996)
Factor Structure of Deterrents to Public Participation in Adult Education (Darkenwald & Valentine 1985)	*A Factor Analytic Study of Leisure Constraints in Advanced Adulthood.* (McGuire 1984)
Factor Structure of Deterrents to Agriculture Teachers' Participation in Credit and Non-Credit Courses (Drake 1988)	*Barriers to Screening: The Theory of Reasoned Action Applied to Mammography Use in a Military Beneficiary Population* (Michels et al 1995)
Typology of Factors that Deter Participation with an Educational Institution (Ellsworth et al. 1991)	*Perceived Benefits of and Barriers to Exercise and Stage of Exercise Adoption in Young Adults* (Myers & Roth 1997)
What Turns Older Adults on to Education: Research Describing Participation in Educational Activities by Active Older Adults (Fisher 1983)	*Leisure Participation in the South. Vol. II. Appendices. Final Report* (Orend 1980)
A Typology of Low-Literate Adults Based on Perceptions of Deterrents to Participation in Adult Basic Education (Hayes 1988)	*Leisure Time Use in the South: A Secondary Analysis* (Reed & Marsden 1980)
Hispanic Adults and ESL Programs: Barriers to Participation (Hayes 1989)	*An Application of Nonparticipation Data in Recreation Research* (Romsa & Hoffman 1980)
Understanding the Decision to Participate in Formal Adult Education (Henry & Basile 1994)	*Socioeconomic Variations in Perceived Barriers to Recreation Participation Among Would-be Participants* (Searle & Jackson 1985)
Why Adults Participate: Convenience, Reputation, and Self- Improvement Count (Norland 1992)	*Women and Exercise Participation: The Mixed Blessings of Motherhood* (Verhoef & Love 1994)
Education Orientations of the Aged: An Attitudinal Inquiry (Price & Lyon 1982)	*Segmenting Downhill Skiing's Latent Demand Markets* (Williams & Basford 1992)
Adult Participation in Lifelong Learning Activities in California (Rose & Graesser 1981)	
Change Theory and Increasing Participation in Adult Basic Education (Sherman 1990)	
Adult Education as a Response to the Rural Crisis: Factors Governing Utility and Participation (Sundet & Galbraith 1991)	
Deterrents to Participation in Adult Education: Profiles of Potential Learners (Valentine & Darkenwald 1990)	
Barriers to Participation in Adult Upgrading Programs: An Exploratory Study (Watt & Boss 1987)	

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1. Use of Conceptual Frameworks

While a number of the empirical studies reviewed in this section used an explicit conceptual framework, most were more eclectic drawing ideas from a number of different sources. Others simply put forth empirical questions without mentioning conceptual work, citing instead results of other empirical studies. Below we briefly note those studies that explicitly mentioned one of the frameworks reviewed in chapter II. A few used additional frameworks and these are also identified.

Among the studies in AE that were explicitly guided by various theories, models, or conceptual frameworks three such studies stood out.

- Darkenwald and Valentine (1985) described their study of barriers to participation as an attempt to fill a gap in previous research. They wanted to focus less on motivation than had previous frameworks, including Cross's (1981) Chain-of-Response Model and Rubenson's (1977) Recruitment Model.

- Sherman's (1990) research on ABE in Wyoming was informed by both Change Theory and Cross's (1981) Chain-of-Response model.

- Henry and Basile (1994) mentioned a variety of frameworks including the Theory of Reasoned Action and Cookson's (1986) interdisciplinary model, but grounded their study in the psychological tradition.

Following are examples of barriers-to-participation studies from fields other than AE that had clear, strong ties to one or more theoretical perspectives.

- In their study of participation in a workplace mammography screening program, Champion et al. (1997) discusses both the Health Belief Model and the Behavioral Model of Health Services Use.

- Another study pertaining to mammography (Michels et al. 1995) was based on the Theory of Reasoned Action.

- Jones and Nies's (1996) study of exercise by older African American women was based on the Health Promotion Model (not reviewed in chapter II).

- Another study on exercise participation, this one focusing on young adults (Myers and Roth 1997), took as its conceptual framework the Transtheoretical Model of Behavior Change.

- Romsa and Hoffman (1980) based their study of recreation on Opportunity Theory (not reviewed in chapter II).

- Alexandris and Carroll's (1997) investigation of constraints to recreational sport participation was guided by the Hierarchical Model of Leisure Constraints.

A number of other studies, however, from both AE and other areas, made little or no explicit mention of theories or conceptual frameworks that guided or informed the research efforts. AE-related studies in this category included those by Beder (1990a), Blais, Duquette and Painchaud (1989), Central Research Corporation (1980), Fisher (1983), and Rose and Graesser (1981); among the non-AE studies in this category were Dowdell's (1994) exploration of communication barriers to union participation, McGuire's (1984) study of leisure constraints in advanced adulthood, Orend's (1980) and Reed and Marsden's (1980) studies of arts-related leisure activities, Searle and Jackson's (1985) study of barriers to recreation participation, and Verhoef and Love's (1994) study of women's participation in exercise. While these studies collected and analyzed useful and interesting data on participation/nonparticipation, they appeared not to be highly concerned with testing the validity of any particular model or framework explaining why people do or do not participate in AE or other activities.

Nonetheless, even the studies we have described as lacking a strong or clear basis in theory, can be seen as reflecting, to varying extents, key aspects of several of the conceptual frameworks or theoretical models described above in this section and in the preceding chapter. In particular, various general orientations are sometimes reflected in the studies' instrumentation. For example, in studying continuing professional education, Blais, Duquette, and Painchaud (1989) used a survey instrument containing several items that could be seen as reflecting an economic, rational-choice perspective, implying that people compare various options for how to spend their time and select those that give them the most utility. Two such items that respondents were asked to rate in terms of the items' influence on their nonparticipation decisions, were: "Because there are better things to spend my time and money on" and "Because I'm not willing to sacrifice what little leisure time I have."[3]

This study's survey instrument also contained items that could be seen as pertinent to some of the key concepts in the Health Belief Model and the Behavioral Model of

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[3] In discussing their findings, Blais, Duquette, and Painchaud (1989) wrote that responses on items like these, "show that attending continuing education activities is perceived as encroaching on other more valuable areas of life," and illustrate "quite well that the decision to abstain from participation may result, in many cases, from the refusal to reallocate time to make room for professional development activities" (p. 232).

Health Services Use described above. For example, the items "Because, in my case, getting another degree will not increase my salary" and "Because promotions are often awarded on the basis of seniority instead of the number of years of professional education" seem to get at the predisposing variable of perception of benefits. Similarly, a study by Beder (1990b) contained survey items relating to adults' perceptions of potential benefits from participating in ABE courses: "A high school diploma wouldn't improve my life" and "Going back to school wouldn't make me any smarter."

In summary, the empirical research studies that we reviewed—which mainly focused on measuring barriers to participation—represent multiple, diverse perspectives. A final, important observation on theoretical orientations and explanatory models is that barriers to participation--while the primary focus of the studies we reviewed--represent just one component of some of the models mentioned above (and reviewed in greater detail in chapter II). Thus research on barriers should be seen not as trying to fully explain why people do or do not decide to participate in AE or other activities, but rather as attempting to increase knowledge about one of many influences on such decisions.

2. The Multiple Meanings of "Barrier"

In addition to reflecting a broad range of theoretical perspectives on human behavior and choice, the studies we reviewed also featured diverse conceptualizations of the term "barriers." One common view is that barriers are things that could not be overcome, or else the nonparticipants would have participated.[4] For example, in their discussion of Harris poll results on arts-related leisure activities, Reed and Marsden (1980) defined barriers as "factors which keep people who *want* to participate in some activity from doing so" (p. 4-1). Another common view is that barriers are things that depress the frequency or extent of participation below the desired level, but do not necessarily prohibit participation entirely. Indeed, Alexandris and Carroll (1997), in a study focused on recreational sport participation, pointed out a conceptual distinction between two kinds of constraints (barriers): *blocking constraints*, those that completely preclude participation, and *inhibiting constraints*, those that merely inhibit the ability to participate to a certain extent.

Moreover, different terms used to describe the same concept can have different connotations. In a 1990 study, Valentine and Darkenwald commented that the traditional term "barriers" was slowly being replaced by "deterrents" in AE literature. Their explanation for this change of preference in terminology was as follows:

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[4] Both AE components of NHES have taken this perspective, defining barriers as things that "kept" (1991) or "prevented" (1995) people from participating.

> Barrier connotes an absolute blockage, a static and insurmountable obstacle that prevents an otherwise willing adult from participating in adult education--an attractive but simplistic notion. Deterrent, on the other hand, suggests a more dynamic and less conclusive force, one that works largely in combination with other forces, both positive and negative, in affecting the participation decision (p. 30).

In reviewing literature on barriers to participation in AE and other activities, it is important to keep such conceptual distinctions in mind.

B. SURVEY DESIGN TECHNICAL ISSUES

In this section we discuss several technical or structural issues pertaining to survey research on barriers to participation in various activities. These issues include the type of survey conducted, the determination of individual factors that may inhibit (or promote) participation, the variety of ways to measure deterrence or motivation through various survey answer choices, the time frame of reference, the selection of respondents, and the reliability of barriers items. We highlight each of these issues with extensive examples from the empirical research studies we reviewed for this project.[5]

1. Data Collection Methods Used

The studies we reviewed on AE and other activities represented the full range of approaches to conducting surveys on participation or nonparticipation, including in-person interviews, mail surveys, written questionnaires not distributed through the mail, and, like NHES, telephone interviews. Table 3-2 lists the studies that we reviewed by their field of research and the survey method used. In both AE-related studies and studies of other activities, mail surveys and other written questionnaires were the most popular methods for gathering information on factors that influence adults participation decisions; telephone surveys were used much less frequently. This most likely is a function of the relative resource requirements of these methods, rather than any understanding of which survey methods work best for conducting this type of research.

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[5] Unfortunately, some of the publications we reviewed--especially some of the shorter journal articles--lacked sufficient descriptive detail for us to determine with certainty how various aspects of the research were carried out. In some of these cases, we used our best judgment to categorize or describe the study, given the information provided; in a few cases, however, we were unable to categorize the study at all on certain dimensions.

Table 3-2.--Survey methods used by studies reviewed for this project

	Field of Research	
Survey Method	**AE-Related Studies**	**Studies of Other Activities**
In-Person Interviews	Beder (1990a) Central Research Corporation (1980)	Reed and Marsden (1980 [the Harris surveys])
Mail Surveys	Blais, Duquette, and Painchaud (1989) Darkenwald and Valentine (1985) Henry and Basile (1994) Norland (1992) Price and Lyon (1982) Sundet and Galbraith (1991) Valentine and Darkenwald (1990)	Champion et al. (1997) Jackson and Henderson (1995) Michels et al. (1995) Orend (1980) Searle and Jackson (1985) Verhoef and Love (1994)
Written Questionnaires Not Distributed Through the Mail	Drake (1988) Ellsworth et al. (1991) Fisher (1983) Hayes (1988; 1989) Henry and Basile (1994) Watt and Boss (1987)	Alexandris and Carroll (1997) Dowdell (1994) Jones and Nies (1996) Myers and Roth (1997)
Telephone Interviews	Beder (1990a; 1990b) Rose and Graesser (1981) Sherman (1990)	McGuire (1984) Williams and Basford (1992)

2. Determining What Factors May Inhibit or Promote Participation

Among the studies we reviewed, there were two basic approaches for investigating *what types of factors* function to inhibit or promote participation: one approach was to use lists of specific potential barriers or motivations; the other approach was to ask open-ended questions. Below we discuss each of these approaches in turn, with examples from the empirical studies.

Predetermined Lists. The most common approach, by far, for determining factors that play a role in people's decisions to participate or not participate in a given activity was to use predetermined lists of potential barriers or motivations. Some of the lists of potential inhibitors or motivators in the AE field were rather long: Ellsworth et al. (1991) used a list of at least 52 potential barriers to adult participation in postsecondary education; one study of ABE students (Beder 1990a) used a list of 62 possible motivations for attending ABE courses. The shortest list of barriers we encountered in the AE literature contained five possible reasons for nonparticipation, one of which was "other" (Sherman 1990). The shortest list of potential barriers we found in the non-AE studies offered eight reasons for not attending a breast cancer screening program (Champion et al. 1997).

Overall, judging from the set of studies we reviewed, it appears that surveys on AE participation typically provide longer lists of potential barriers than do surveys on participation or nonparticipation in other activities. Of the 14 AE-related studies which clearly disclosed the number of barriers items, four used less than 20 items, eight used between 30 and 35 items, and two used 50 items or more. In contrast, of the 13 non-AE-related studies that used lists of potential barriers, it appeared[6] that 11 used less than 25 items, and just two used between 30 and 35 items. The reason for this observed difference is unclear.

How did researchers using lists decide on what potential barriers to include or not include on the lists? The authors of several studies described using various sources, including their own intuition, logic, or curiosity; prior empirical studies and conceptual or theoretical writings; interviews with experts and program administrators; and interviews with current and/or past participants in the activity under study. In addition, some researchers described using pretests to refine their data collection instruments.

Exhibit 3-1 presents 65 examples of potential barriers to AE participation used in the studies we reviewed. The examples we selected are intended to show the substantial diversity of factors that various researchers have investigated as possibly influencing adults not to participate in AE.[7] While not organized by type or theme, even a cursory examination of the examples reveals certain broad distinctions. For example, some items can be seen as pertaining to attitudes or self-perceptions; others to the respondent's life situation; and still others to aspects of the activity or program under question.

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[6] A few of these articles were not completely clear as to the exact number of barriers items listed, but provided enough information for us to feel fairly certain as to which group they belonged in.

For comparison purposes, a similar, selective list of 30 examples from the non-AE studies we reviewed is presented in exhibit 3-2. This listing shows that many of the potential barriers to participation in AE are also considered potential barriers to participation in a variety of other activities. A larger collection of examples can be found in the write-ups for the 14 non-AE studies presented in the appendix.

Open-Ended Questions. An alternative approach, used much less often in the survey-based studies we reviewed, was to ask open-ended questions, allowing respondents to describe, in their own words, one or more reasons why they have chosen to participate or not participate in a given activity.[8] Only three of the AE studies used this approach (Central Research Corp. 1980; Rose and Graesser 1981; Sherman 1990), as did just one of the non-AE studies (Michels et al. 1995). Interestingly, all three of the AE studies used interviews, as opposed to written questionnaires. While interview-based surveys can utilize both approaches--for example, Beder (1990a, 1990b) and McGuire (1984) conducted telephone-based interviews that used the list-of-items format-- the open-ended approach may be better suited for interview-based surveys than for written questionnaires, where respondents may be less likely to make the effort to write down a response.

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[7] The examples in exhibit 3-1 are not necessarily representative of all the barriers items in the studies we reviewed. For instance, this listing does not convey the frequency with which the items were used across different studies; indeed, some of these examples appeared in only one study, while others appeared in nearly every study. A larger collection of examples can be found in the 19 AE study write-ups presented in the appendix. However, given the length of many of the barriers lists we encountered, even the detailed write-ups typically do not include all the barriers items used in a study; readers interested in complete, or at least more extensive, lists are referred to the original publications.

[8] Studies using predetermined lists, discussed above, also typically provide respondents with the opportunity to name any additional barriers or motivators that they felt applied to them, but were not included in the list.

Exhibit 3-1.--Examples of potential barriers to participation in adult education used in a sample of empirical research studies

a feeling that I could not do the work	(Apt 1978)
no reason or incentive for further education	
teachers would not understand my learning needs and problems	
reluctant to try new, unfamiliar way of learning	
time required to complete program	
transportation problems	
a high school diploma wouldn't improve my life	(Beder 1990a; 1990b)
I am too old to go back to school	
I'm not motivated enough	
I'm not smart enough	
my friends would laugh at me	
I don't like school	
I'm too set in my ways	
the courses were scheduled at inconvenient times	(Blais, Duquette, and Painchaud 1989)
with all my other commitments, I just don't have the time	
getting another degree will not increase my salary	
promotions are based on seniority, not years of professional education	
most of my learning needs are met with on-the-job instruction	
there are better things to spend my time and money on	
don't find participation to be personally satisfying	
I didn't meet the requirements for the course	(Darkenwald and Valentine 1985)
the available courses did not seem useful or practical	(Valentine and Darkenwald 1990)
I didn't have the time for the studying required	
the course was offered at an inconvenient location	
I wasn't willing to give up my leisure time	
I couldn't afford the registration or course fee	
personal health problem or handicap	
didn't think the course would meet my needs	(Drake 1988)
course scheduled at inconvenient time	
didn't think I would be able to complete course	
education would not help me in my job	
family problems	
had trouble arranging for child care	

Exhibit 3-1.--Examples of potential barriers to participation in adult education used in a sample of empirical research studies—(continued)

friends/family don't like the idea of me going to school (Ellsworth et al. 1991)
cost of child care
poor study habits
lack of response to telephone inquiries
class attendance policies
access to computers
parking

didn't know anyone taking classes (Hayes 1988)
tried to start but classes were full
thought "book learning" wasn't important
didn't want to take classes in a school building
didn't like other students who attend
thought starting classes would be difficult, with lots of questions and forms to fill out

it was more important to get a job than to go to school (Hayes 1989)
thought it would be like regular school
didn't think I needed to read better
didn't want to answer questions in class
classes were in a bad neighborhood
heard classes were not very good
thought I wouldn't like being in classes with younger students

job responsibilities (Sundet and Galbraith 1991)
home responsibilities
course schedule
no energy
no transportation
past low grades

worried about lack of earlier education (Watt and Boss 1987)
uncertain about value of courses
not interested in available courses
don't enjoy being part of a group
don't know what courses are available
don't want to follow schedules and write exams

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Exhibit 3-2.--Examples of potential barriers to participation in other activities used in a sample of empirical research studies

not confident *timetable does not fit with mine* *not enjoyed in past* *not want to interrupt routine* *not interested*	(Alexandris and Carroll 1997)
too tired *too busy looking after my family* *lack of transportation* *trouble finding parking*	(Dowdell 1994)
cost of transportation *admission fees and charges* *overcrowded facilities* *poorly maintained facilities*	(Jackson and Henderson 1995)
a feeling that family/friends would not approve *weather* *fear of crime* *too old*	(McGuire 1984)
the quality of the performance/players is not very good *I like doing other things more*	(Orend 1980)
work commitments *no opportunity to participate close to home* *no others to participate with* *don't know where I can participate* *shy about participating in public*	(Searle and Jackson 1985)
lack of self-discipline or willpower *long-term illness, disability, or injury* *lack of babysitting services* *get enough physical activity in job*	(Verhoef and Love 1994)
equipment is too expensive *I would feel embarrassed in front of friends*	(Williams and Basford 1992)

3. Measuring Deterrence/Motivation to Participate: Survey Answer Choices

The empirical studies we reviewed used three basic methods to measure *whether and how--that is, the extent to which*--various factors functioned to deter or motivate participation in various activities: (1) scaled-response options; (2) a check-all-that-apply approach; and (3) a multiple-choice approach, in which respondents indicate only one of several answer options.

The most common approach among the AE studies was to use a Likert-type scaled-response scale. For example, in surveys on the motivations of ABE participants and barriers faced by ABE nonparticipants, Beder (1990a) used a three-point scale to measure how true a given statement/item was for the respondent: "not true," "somewhat true," or "very true." Blais, Duquette, and Painchaud (1989), asked Canadian nurses to indicate the extent to which various reasons had influenced their decision not to attend continuing professional education courses, using a four-point scale: "not at all," "slightly," "moderately," and "considerably." Darkenwald and Valentine (1985) used a five-point scale to measure "how important each [reason] was in your decision not to participate in an educational activity:" "not important," "slightly important," "somewhat important," "quite important," and "very important." Drake (1988), Ellsworth et al. (1991), and Sundet and Galbraith (1991) used similar five-point scales in their AE-related studies.

The scaled-response approach was also widely utilized in the studies of activities other than AE. For example, Searle and Jackson (1985) asked respondents to indicate whether various possible barriers to recreation participation were never, seldom, or often a problem. McGuire (1984) used a three-point scale--"not important," "somewhat important," and "very important"--in his study of leisure constraints. In their study of reasons for nonparticipation in recreational sports among Greek adults, Alexandris and Carroll (1997) used a four-point Likert scale ranging from "not important" to "very important." Jackson and Henderson (1995), Jones and Nies (1996), and Myers and Roth (1997) used similar scales in their recreation- and exercise-related studies. Champion et al. (1997) used a five-point scale to measure the extent of women's agreement with various potentially negative aspects of mammography, ranging from "strongly disagree" to "strongly agree." Finally, Williams and Basford (1992) used a six-point scale, ranging from "strongly disagree" to "strongly agree" to measure nonskiers' perceptions of deterrents potentially associated with downhill skiing.

The second most common measurement approach used was simply to have respondents indicate all the barriers or motivating items that apply to them, essentially using a yes/no or agree/disagree format. Among the AE-related studies we reviewed, this approach was used by Price and Lyon (1982) and Watt and Boss (1987). Among the studies of activities other than AE, this approach was used by Dowdell (1994) regarding reasons for nonparticipation in labor union activities. The Harris surveys of barriers to participation in leisure activities described by Reed and

Marsden (1980) also used a check-all-that-apply format, as apparently did Verhoef and Love's (1994) study of nonparticipation in physical exercise.

Orend's (1980) study of Southerners' participation in arts-related leisure activities was unique among the articles we reviewed; it was the only one that asked respondents to select one barrier from a list of several. The questionnaire listed 12 possible barriers and asked respondents to indicate which one was "the most important reason you haven't done more of this [activity] in the past year."

Interestingly, none of the three AE-related interview studies that utilized an open-ended barriers question (Central Research Corp. 1980; Rose and Graesser 1981; Sherman 1990) asked respondents to indicate the relative extent to which the barriers they named prohibited or deterred them from participating in AE courses.

A final note of interest on measurement options for barriers items is that the approach used in the studies we reviewed was sometimes a function of their research subjects and pretest results. For example, Price and Lyon (1982) explain that after pretesting their survey of older people in Franklin County, New York, "it was decided to go a forced choice type of response (agree or disagree) since very few of the respondents used either the strongly agree or disagree categories. Also, since the undecided category was seldomly used, this too was eliminated" (p. 475).

4. Time Frame of Reference in Barriers Questions

Another structural/technical issue to consider in reviewing survey research on barriers to participation is the time frame associated with the activity under study. In the literature we reviewed, we found examples of questions oriented to the past, the present, and even the future. Among the AE studies, no approach clearly dominated. One example of a survey question addressing current barriers to participation is from Sherman's (1990) ABE-related study, which simply asked, "Why are you not taking classes now?" Other examples of surveys addressing reasons for current nonparticipation can be found in Beder (1990b) and Rose and Graesser (1981).

In contrast, some AE studies phrased barriers questions in the past tense. Darkenwald and Valentine (1985), for example, asked respondents to think of an educational activity that they wanted to participate in during the past year, but did not, and then asked about their decision not to participate. For other examples of surveys focused on past barriers to participation, see Blais, Duquette and Painchaud (1989), Henry and Basile (1994), and Hayes (1988; 1989).

One AE study we reviewed used both of the above approaches. A survey conducted by Watt and Boss (1987) asked current AE students about barriers which had been problems for them in the past and also asked the same respondents to indicate whether these things continued to be problems at the present time.

Finally, two AE studies focused on potential barriers to future participation. In Price and Lyon's (1982) survey, the sole barriers question was essentially future-oriented: "What factors would keep you from attending educational/cultural events?" A more explicit future orientation was used in Central Research Corporation's (1980) study of AE in Kansas. Interviewees were first asked two questions about the likelihood of them participating in AE in the next 3-10 years, and then asked about barriers that might prevent them from doing so.

Among studies focusing on activities other than AE, the most common approach in those we reviewed was to phrase survey questions in the present tense, asking why respondents do not currently participate in various activities at all, or to the extent they would like to. For example, Searle and Jackson's (1985) survey first asked, "Is there any recreational activity that you don't take part in now but would like to start regularly?" then followed with, "Why don't you participate in this activity?" For other examples, see Jackson and Henderson (1995), McGuire (1984), Michels et al. (1995) and Reed and Marsden (1980 [on the Harris surveys]).

In contrast, Orend's (1980) study of participation in arts-related leisure activities focused on the past, asking respondents, "What is the most important reason you haven't done more of this in the past year?" Finally, Dowdell's (1994) study of labor union involvement was unique in asking about reasons for past nonparticipation in certain activities--"If you did *not* vote [in the last union election], why not?"--and about reasons for current, ongoing nonparticipation in certain other activities--"If you do *not* attend union meetings, why not?"

a. Possible Rationales for Various Approaches

The decision to focus on past or current barriers could be a function of at least three things: (1) the activity under study, (2) the chosen respondents, and (3) expectations about reliability. One reason for the common focus on the present in the non-AE studies could be that the activities they address are generally less formal and less organized than AE. For example, whereas AE classes involve groups of people and are typically scheduled for a particular place and time, physical exercise and recreation can be done at almost any time by individuals; thus, it makes sense to ask about the latter as on-going activities.

One reason why some AE-related studies focused on past barriers to participation may be that their research subjects were current participants (see, for example, Hayes 1988; 1989). Intuitively, if one is surveying current participants, it may make more sense to ask about what barriers they experienced in the past, before they began participating, than about any deterrents they are experiencing at the present time.[9]

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[9] Although, as mentioned above, this latter approach was taken by Watt and Boss (1987).

The general issue of research subjects and who responds to barriers questions is discussed elsewhere in this section.

Finally, a decision to focus survey questions on barriers to current or on-going participation could be motivated by expectations about the ability to elicit reliable answers from respondents. Alexandris and Carroll (1997) note that measures of leisure participation based on a 1-year period "may not always be reliable and accurate, because respondents may have difficulty recalling over such a long period" (p. 5). They cite a study by Chase and Harada (1984) which suggested that self-reports of participation are subject to substantial response error resulting in a substantial difference between reported and actual behavior. If this is true about something as concrete and objective as people's participation in recreational sports activities, it may also be true about something as subjective as people's reasons for nonparticipation. In other words, if people are not very good at remembering the activities they did or did not do 12 months after the fact, they may also find it difficult to accurately recall the factors that played a role in their decisions whether or not to participate in those activities.

5. Research Subjects and Barrier Question Respondents

Survey questions addressing barriers to participation in some activity can be asked of three possible response groups: (1) participants in the activity, (2) nonparticipants in the activity, and (3) both participants and nonparticipants. We found all of these approaches in the empirical research studies we reviewed for this project. Among the 15 surveys reported in the AE-related studies we reviewed, four followed each of the first two approaches and seven followed the third approach.[10] As for the non-AE studies we reviewed, they were about equally divided between the second and third approaches; interestingly, none of them used the first approach (asking barriers questions only of participants). Below we describe and discuss examples of each of these three approaches.

Participants only. In the AE area, some researchers have studied barriers through surveys of only participants. For example, Ellsworth et al. (1991) surveyed current college students and asked about barriers to participation in college. Hayes surveyed current ABE students (1988) and current ESL students (1989), in both cases asking them about barriers to participation they had experienced before they first enrolled in those programs. Watt and Boss (1987) surveyed only current participants in a variety of AE courses and asked them about both past and current barriers. As is clear from the last two examples, when known AE participants are asked about barriers, the questions are sometimes framed to get respondents to think about past instances of nonparticipation.

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[10] Note that this count is based on surveys, not articles: in some cases, one article reported results from more than one survey; in other cases, the same survey was discussed in more than one article.

Nonparticipants only. One way to target nonparticipants is by surveying only them. For example, the barriers research reported by Beder (1990a; 1990b) was based on a survey of people who had never attended an ABE program. In a somewhat similar approach, Sherman's (1990) study of ABE in Wyoming involved two surveys of adults currently not participating in such courses.

Another way to target nonparticipants is to use question responses and skip patterns to single out nonparticipants. The only example of this approach from the AE-related articles we reviewed was a study of AE in Kansas, conducted by Central Research Corporation (1980). In face-to-face interviews, barriers to participation were addressed with a sequence of four questions. The first question asked, "If you take a look into the future and take into account the fact that practical barriers do exist, how likely do you think you are to involve yourself in some form of adult or continuing education within the next three years?" Respondents who answered "not likely," "definitely not," or "don't know" were asked the same question again, but using a 10-year time frame. Those who again answered "not likely" or "definitely not," were then asked, "Would you say that it is because you don't have a desire for additional education or because there are too many practical barriers?" Finally, those who answered "too many barriers" or "both" were asked an open-ended question, "What are the practical barriers that you would have to overcome?" Thus, the barriers question applied only to people who did not see themselves as participating in AE in the future, despite having a desire for more education.

Roughly half of the studies we reviewed from fields other than AE used the approach of addressing survey questions on barriers only to nonparticipants; furthermore, all of these studies did so through the structure of the questionnaire, rather than by initially surveying only nonparticipants. For example, Dowdell (1994) worded questions on barriers to apply only to those respondents who did not participate in a given union-related activity. In addition, several of these studies targeted only *interested* nonparticipants. In the recreation studies by Jackson and Henderson (1995) and Searle and Jackson (1985), only survey respondents who reported that there was some activity they would like to participate in, but were not then doing so, were subsequently asked about the reasons for their nonparticipation. A generally similar approach was used in the Harris surveys on leisure activities described by Reed and Marsden (1980) and in the survey on downhill skiing by Williams and Basford (1992).

Both participants and nonparticipants. Asking both participants and nonparticipants the same questions about barriers was the most common approach in the AE-related studies we reviewed. For example, Price and Lyon (1982) used a single set of AE barriers questions for all survey respondents, regardless of the respondents' past, current, or anticipated future participation in AE. The same was true of the survey described in Darkenwald and Valentine (1985) and Valentine and Darkenwald (1990), and of AE-related surveys by Drake (1988) and Sundet and Galbraith (1991).

In some cases, however, although participants and nonparticipants answered the same barriers questions, the researchers distinguished between the two groups in their analysis of the survey data. For example, Fisher's (1983) study apparently asked the same barriers question(s) of all respondents; however, his analysis focused on a comparison of participants and nonparticipants in AE. Similarly, Henry and Basile (1994) administered the same survey to current students in a particular continuing education program and to current nonparticipants in the same program, but focused on differences between the groups in one analysis.[11] Finally, Blais, Duquette, and Painchaud (1989) apparently had all respondents answer questions about their reasons for not taking continuing professional education courses, but the researchers focused their analysis only on "pure nonparticipants," who they defined as "those who had not taken part in any continuing education activities not scheduled during work hours (conferences, colloquia, workshops, training sessions, etc.) during the preceding 12 months" (p. 226).

As is the case with barriers studies focused on known participants (described above), when respondents who may or may not be participating in AE are asked about barriers, the survey questions are sometimes designed to have them think about past instances of nonparticipation. For example, the mail survey reported in Darkenwald and Valentine (1985) and Valentine and Darkenwald (1990) used the following instruction for respondents: "...adults sometimes find it hard to participate in [adult education] activities, even when they want to. Try to think of something--*anything at all*--that you wanted to learn in the past year or two, but never did. Then look at the reasons below and decide *how important each one was* in your decision not to participate in an educational activity."

Roughly half of the empirical research articles we reviewed from fields other than AE used the approach of asking both participants and nonparticipants about barriers to participation. For example, some of the studies related to leisure, exercise, and recreation asked all survey respondents about perceptions of constraints on participation, regardless of their reported current levels of involvement in such activities (see, for example, Jones and Nies 1996; Verhoef and Love 1994; McGuire 1984; Myers and Roth 1997). Similar to the AE studies described above, some of the non-AE studies using this third approach focused their analysis on the differences between participants and nonparticipants, including Alexandris and Carroll's (1997) study of recreational sports participation in Greece and the study by Champion et al. (1997) of participation in a free breast cancer screening program. Finally, the leisure-related survey used by Orend (1980) provides an example in which barriers questions were addressed only to those who reported some desire to increase their participation in various activities--a group which could have included both current participants and nonparticipants.

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[11] The researchers conducted a logistical regression analysis with the dichotomous dependent variable of participate/not participate in the program.

6. What is Known About the Reliability of Barriers Questions?

Unfortunately, the relatively small proportion of reinterview respondents answering the barriers questions on the NHES:95 AE reinterview study (Brick, Wernimont, and Montes 1996) did not allow for definite conclusions concerning the reliability of the barriers questions in that version of NHES. Because of the sampling strategy used,[12] the number of respondents who answered barriers items a second time was insufficient to support a firm judgment as to whether the barriers items "worked," in the sense of eliciting consistent responses in a second administration of the instrument. Nonetheless, the results did suggest that a problem could exist. Therefore, we paid attention to the issue of reliability when reviewing the 33 empirical research studies selected for this project.

In the literature we reviewed, reinterviews typically were not done to assess the reliability of survey questions on barriers to participation. When authors mentioned the issue of reliability, it was nearly always to say that they had assessed the overall "internal reliability" of their survey questions on barriers, typically measured with the statistic Cronbach's alpha. This technique gets at whether all the items are measuring the general concept of "barriers," but not at whether respondents give consistent answers at two different times.

Of the 33 studies that we reviewed, only one mentioned conducting a re-test to determine whether the same respondents answered the same set of questions similarly at two points in time. Myers and Roth (1997), who studied perceived benefits of and barriers to exercise among college students, examined the "test-retest reliability" of their survey instrument over a two-week period with a subset (one-third) of original respondents. Although Myers and Roth did not report gross or net difference rates, as was done in the NHES:95 AE reinterview study, the authors reported that the reliability of "the total barrier score" was $r = .68$, somewhat lower than for "the total benefit score" ($r = .88$). This finding would seem to support a conclusion that people give less consistent responses to questions about *why they do not do something* than about other things--such as, in this case, the importance they attach to potential benefits from physical exercise.

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[12] Participants, who did not answer barriers questions, were oversampled; nonparticipants in AE constituted only 20 percent of completed reinterviews, compared with 60 percent of respondents to the original survey.

C. SUBSTANTIVE FINDINGS ON BARRIERS TO PARTICIPATION IN ADULT EDUCATION

In this section, we review the results of several empirical investigations into how various factors influence adults' decisions to participate or not participate in AE courses or programs.[13] Due to the nature and scope of the sample of literature we reviewed for this project, our summary should not be viewed as representing all relevant findings from research in this field. (Indeed, several of the individual studies themselves are not generalizable to any population.) Rather, it serves to illustrate the diversity and range of results in this area.

The empirical research studies that we reviewed generally presented one or two types of findings, flowing from two different analytical methods. The simplest, most straightforward approach is to calculate the frequency or extent to which various individual items were viewed as barriers to participation by the survey respondents. The second approach involves using factor analysis to statistically determine the underlying structure of the barriers concept--that is, how various individual items "group together" to indicate types of barriers. With this approach, researchers must examine the individual items that constitute each factor and subjectively judge what they have in common, giving each factor a name reflecting its underlying theme.

Table 3-3 presents the substantive results from 17 of the studies we reviewed on barriers to participation in AE,[14] first for studies that have addressed participation in AE in general, then for studies that have focused on just one particular type of AE. For each study listed, we describe the research subjects, the individual barriers rated most and least important, and the factors that emerge from the factor analysis (or, where noted, the authors' typologies). The barriers rated most important are listed in descending order--most important, second-most important, etc. The barriers rated least important are also listed in descending order--least important, second-least important, etc. For studies that used scaled responses, these rankings are based on the mean rating of each item; for studies that used check-all-that-apply or multiple-choice responses, or that asked open-ended questions, these rankings reflect the frequency with which respondents indicated various barriers. Finally, the factors that emerged from the analyses are also listed in descending order of importance, based on the mean ratings of all items in a factor.[15] For rankings of both individual barriers and factors, if two or more items/factors have the same score, we list them together, separated with semicolons.

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[13] We do not summarize the results of the studies from fields other than AE, because we felt such information would not be relevant to developing future versions of the AE component for NHES.

[14] Two studies (Henry and Basile 1994; Norland 1992) did not present results that could be summarized in the format of table 3-3.

[15] In cases where authors did not present these averages, we calculated them ourselves from the data presented in the article.

Table 3-3.--Overview of results from empirical analyses on barriers to participation in adult education

Authors (Date of Study) [Type of AE]	Survey Respondents	Individual Barriers Rated Most Important	Individual Barriers Rated Least Important	Factors
Results From Studies of AE in General				
Central Research Corporation (1980)	998 adults in Kansas	--Free time --Cost --Age --Family obligations --Health	*Not Applicable*	*Not Applicable*
Darkenwald and Valentine (1985); Valentine and Darkenwald (1990)	215 adults in Somerset County, New Jersey, not enrolled full-time in school	--Course was scheduled at inconvenient time --Course was offered at an inconvenient location --I didn't have the time for the studying required	--Personal health problem or handicap --My friends did not encourage my participation --Transportation problems	--Time Constraints --Lack of Course Relevance --Low Personal Priority --Cost --Personal Problems --Lack of Confidence
Fisher (1983)	422 older adults in Wisconsin; half participants, half not	--Lack of transportation --Classes held at night --Uninteresting courses --High cost of courses --Lack of time --Older people don't need to learn --Apathy --Health problems/physical handicaps --Activities scheduled in unsafe/dangerous areas.	*Not Applicable*	*Not Applicable*

Table 3-3.--Overview of results from empirical analyses on barriers to participation in adult education—(continued)

Authors (Date of Study) [Type of AE]	Survey Respondents	Individual Barriers Rated Most Important	Individual Barriers Rated Least Important	Factors
Results From Studies of AE in General (continued)				
Price and Lyon (1982)	172 older adults from Franklin County, New York	--Weather conditions --Location of performance or event --Health --Someone to go with --Transportation --Not knowing about the activity in advance --Cost --Few opportunities in my area	*Not Applicable*	*Not Applicable*
Rose and Graesser (1981)	354 adults in California	--Lack of time --Cost; Health/age considerations --Family responsibilities --Full work schedule --Lack of child care; Lack of transportation --Lack of interest	*Not Applicable*	*Not Applicable*
Sundet and Galbraith (1991)	104 adults in northwest Missouri	--Cost --Job responsibilities --Home responsibilities	--Family/friends object --Attendance requirements --Past low grades	*According to authors' typology:* --Situational Barriers --Institutional Barriers --Dispositional Barriers

Table 3-3.--Overview of results from empirical analyses on barriers to participation in adult education— (continued)

Authors (Date of Study) [Type of AE]	Survey Respondents	Individual Barriers Rated Most Important	Individual Barriers Rated Least Important	Factors
Results From Studies of AE in General (continued)				
Watt and Boss (1987)	140 adults enrolled in AE courses at an alternative school in eastern Ontario, Canada	*Ratings of past barriers:* --Not sure I can handle courses successfully --Don't know what courses are available --Too busy *Ratings of present barriers:* --Not sure I can handle courses successfully --Worried about lack of earlier education --Uncertain about value of courses	*Ratings of past barriers:* --Don't enjoy being part of group --Not interested in learning at all --Too tired *Ratings of present barriers:* --Don't enjoy being part of group; Not interested in learning at all --Not interested in available courses --Other home responsibilities	*Not Applicable*
Results From Studies of Particular Types of AE				
Apt (1978) [Higher education]	117 adults, ages 18-89, from six counties in rural, western Iowa	*Of the 13 items included in factor analysis results:* --Convenience --Time involved in getting to location --Financial cost	*Of the 13 items included in factor analysis results:* --Teachers would not understand my learning needs and problems --A feeling that I am too old to go back to school --Lack reason or incentive for further education	--Situation Barrier --Affective Barrier

Table 3-3.--Overview of results from empirical analyses on barriers to participation in adult education— (continued)

Authors (Date of Study) [Type of AE]	Survey Respondents	Individual Barriers Rated Most Important	Individual Barriers Rated Least Important	Factors
Results From Studies of Particular Types of AE (continued)				
Beder (1990a; 1990b) [ABE]	129 adults in Iowa who did not graduate high school, had household incomes < $20,000, and never attended ABE	--I would feel strange going back to school --There aren't many people in adult high school classes who are my age --It would be like going to high school all over again; I am too old to go back to school; I don't know anything about adult high school classes; A high school diploma wouldn't improve my life	--I felt that my family wouldn't like it if I went back to school --I move around too much to go back to school --Nobody knows that I don't already have an education; I haven't known where there are any classes; I already know enough; I am too lazy; My friends would laugh at me	--Low Perception of Need; Situational Barriers --Perceived Effort --Dislike for School
Blais, Duquette, and Painchaud (1989) [Continuing professional education]	909 Canadian nurses who had not taken any continuing ed. courses in past year	--With all my other commitments, I just don't have the time --Takes too much time to obtain a certificate or baccalaureate --Attending courses would infringe too much upon my personal life	--The course sponsors had a poor reputation --My family/spouse objects to my outside activities --I would feel out of place at the university	--Low Priority for Work-Related Activities --Absence of External Incentives --Incidental Costs --Irrelevance of Additional Formal Education for Professional Practice --Lack of Information and Affective Support

Table 3-3.--Overview of results from empirical analyses on barriers to participation in adult education— (continued)

Authors (Date of Study) [Type of AE]	Survey Respondents	Individual Barriers Rated Most Important	Individual Barriers Rated Least Important	Factors
Results From Studies of Particular Types of AE (continued)				
Drake (1988) [Continuing professional education]	292 secondary vocational agriculture teachers in Alabama with college degrees	--Course was offered at an inconvenient location --Course was scheduled at an inconvenient time --Course available did not seem interesting	--I felt I couldn't compete with younger students --I was not confident of my learning abilities --Personal health problems	--Cost --Lack of Course Relevance --Lack of Encouragement --Time Constraints and Personal Priority --Lack of Confidence --Personal Problems
Ellsworth et al. (1991) [Higher education]	1,237 students at a public 4-year college in Texas	--Friends and family don't like the idea of me going to school --Afraid that I'm too old to begin an academic program --Cost of child care --No child care --Lack of response to telephone inquiries --Lack of health/medical benefits	--Parking --Library --Shuttle bus --Lighting --Geographical terrain --Access to computers	*According to authors' typology*: --Dispositional Barriers --Situational Barriers --Institutional Barriers --Physical Barriers *According to factor analysis*: --Family Responsibilities --Lack of Confidence --Institutional Encouragement --Time

Table 3-3.--Overview of results from empirical analyses on barriers to participation in adult education— (continued)

Authors (Date of Study) [Type of AE]	Survey Respondents	Individual Barriers Rated Most Important	Individual Barriers Rated Least Important	Factors
Results From Studies of Particular Types of AE (continued)				
Hayes (1988) [ABE]	160 students in 7 urban ABE programs	*Of the 24 items included in factor analysis results:* --I thought it would take too long for me to finish school --I had family problems; I was afraid I wasn't smart enough to do the work --I thought starting classes would be difficult, with lots of questions and forms to fill out; It was more important to get a job than to go to school	*Of the 24 items included in factor analysis results:* --I didn't like the other students who go to the classes --I felt my family wouldn't like it if I returned to school --I didn't want to take classes in a school building	--Low Self-Confidence --Situational Barriers --Low Personal Priority --Social Disapproval --Negative Attitude to Classes
Hayes (1989) [ESL]	207 Hispanic adults attending 5 large, urban ESL programs in New Jersey	--I didn't have time to go to school --I thought it would take me too long to finish school --It was more important to get a job than to go to school	--I didn't like the other students who go to the classes --I thought "book learning" wasn't important; I felt returning to school wouldn't help me; I felt that my friends or people I work with wouldn't like it if I returned to school --I felt my family wouldn't like it if I returned to school	--Situational Constraints --Low Self-Confidence --Lack of Access to Classes --Self/School Incongruence

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Table 3-3.--Overview of results from empirical analyses on barriers to participation in adult education— (continued)

Authors (Date of Study) [Type of AE]	Survey Respondents	Individual Barriers Rated Most Important	Individual Barriers Rated Least Important	Factors
Results From Studies of Particular Types of AE (continued)				
Sherman (1990) [ABE]	(A) 196 adults in Wyoming not enrolled in AE courses; (B) 73 adults in Wyoming registered with an agency but not taking courses	*From survey A:* --No time --Don't need --Expensive *From survey B:* --Wrong times --Not sure I could succeed; Transportation --Child care problems	*Not Applicable*	*Not Applicable*

Direct comparisons of the results of different studies summarized in table 3-3 are limited by such important differences as (1) the activity under study, (2) how the research was conducted, and (3) the selected respondents. Different barriers may be important concerning nonparticipation in different types of programs (such as AE in general versus only ABE or ESL). Obviously, asking different questions (for example, using different lists of potential barriers; asking about past versus present barriers) will produce different results. And finally, even asking the same questions of different respondents (for example, older people versus younger people; participants versus nonparticipants) will lead to different findings.

Nonetheless, by looking across all the studies, some broad observations can be made. First, certain barriers show up fairly consistently as being considered highly important, such as (1) the (lack of) time people have available to pursue AE, (2) family responsibilities, (3) the time and place the courses are scheduled, and (4) the cost of courses. In a factor analysis or a logical typology, the first two of these barriers are frequently described as *situational constraints*, because they pertain to the respondent's life situation; the latter two are frequently referred to as *institutional barriers*, because they pertain to policies or practices controlled by the course offeror.

However, a second, equally important, observation that can be made about the results in table 3-3 is that a wide range of other, very different, barriers are also considered highly important in adults' decisions about participating in AE. Examples include (1) the (lack of) encouragement or support that potential participants receive from family and friends, (2) concerns about their own ability to succeed, (3) negative past experiences with education, (4) worries about not fitting in, (5) the belief that one is too old for school, and (6) perceptions about the hassles involved in starting. In logical typologies such barriers are often referred to as *dispositional barriers*, because they pertain to people's attitudes and perceptions; in factor analyses such barrier items turn up in factors with names like *Lack of Confidence*, *Low Perception of Need*, *Lack of Encouragement*, and *Negative Attitude to Classes*. While barriers such as these may not make short lists of the most important barriers items as consistently as do things like *time* and *cost*, they are nonetheless considered to be an integral part of the factor structure of deterrents to participation in AE.

In reviewing table 3-3, it is also important to keep in mind that the results presented there are the findings for all the survey respondents in each study. However, as mentioned above, findings can vary for different types of respondents. Several of the studies we reviewed sought to explore relationships between respondents' background characteristics (sociodemographic variables such as prior educational attainment, occupation, age, marital and family status, occupation, income, and sex) and their perceptions of barriers to participation in AE. Rather than provide a systematic summary of these studies' findings, here we simply highlight some examples to illustrate how different types of people may experience different barriers.

- Beder (1990b) conducted a correlational analysis, which indicated that the *Low Perception of Need* factor was positively associated with age, widowhood, and retirement, and negatively associated with number of children in the home, last grade attended, and health status. In addition, the *Situational Barriers* factor was positively correlated with marriage, number of children in the home, and full-time employment, and negatively correlated with widowhood.

- Darkenwald and Valentine (1985) also did a correlation analysis, which showed that the factor *Lack of Confidence* was associated with higher age and lower income and educational attainment. The *Cost* factor was also related to lower income and educational attainment, but it was also associated with lower age.

- Hayes (1988) performed a cluster analysis to develop a typology of adults in ABE courses. This analysis showed, for example, that the largest group consisted mainly of "employed individuals who have relatively positive attitudes toward themselves as learners and towards education, but who [based on their relatively high mean score on the social disapproval factor] fear a negative response to their participation from family, friends, and co-workers" (p. 7).

- A cluster analysis by Valentine and Darkenwald (1990) yielded five distinct groups, or types, of respondents: (1) *people deterred by personal problems*, which consisted mainly of traditional homemakers (women) with demanding life situations; (2) *people deterred by a lack of confidence*, for which the dominant profile was mature adults whose personal resources and life circumstances would enable them to participate (if lack of confidence were not an issue); (3) *people deterred by educational costs*, which was disproportionately female and younger than the sample as a whole and had modest incomes; (4) *people not interested in organized education*, for which the dominant profile was well-educated, affluent, employed, and male; and (5) *people not interested in available courses*, for which the dominant profile was quite similar to that of group 4, but who had different attitudes and values concerning adult education.

D. POLICY IMPLICATIONS DISCUSSED IN BARRIERS LITERATURE

Having studied whether and how various factors inhibit participation in AE and other activities, what kinds of conclusions have researchers drawn from their results? What have they seen as the policy implications of their work? These are the questions we take up in this section.

In general, the AE articles we reviewed were based on a common belief that knowledge about barriers is fundamental to increasing program participation rates, the extent of participation among people who already participate, and improving the overall participation experience. As Ellsworth et al. (1991) wrote, "Knowing what kinds of barriers prevent students from taking or staying in educational pursuits will assist faculty, administrators, and others to increase the retention rate of students and to improve the quality of the educational experience of these students" (p. 17). Similarly, Norland (1992) concluded that her findings had "implications for planning, marketing, and delivering Extension programs" (p. 13).

To return to a theme raised at the end of the preceding section, a number of researchers pointed out that potential participants are heterogeneous, comprising multiple market segments, and that attempts to reach them would likely be most successful if program providers tailored their approaches to the key characteristics and issues--both motivations and barriers--that define or differentiate these distinct groups.

- In her study of ABE, Hayes (1988) concluded that "low-literate adults should not be treated as a homogeneous group with respect to their perception of barriers to participation; accordingly, an undifferentiated approach to recruitment and program planning in ABE appears to be inappropriate" (p. 8). She also suggested that "the most effective way to address barriers may be to tailor entire programs to the needs of specific groups" (p. 9).

- Similarly, in her study of ESL, Hayes (1989) pointed out the importance of recognizing that different subgroups of Hispanic adults face different barriers to enrolling in ESL courses, and that different strategies aimed at reducing barriers will be needed for such different groups.

- Beder (1990a) suggested that ABE that is focused narrowly on economic gain or career advancement will not appeal strongly to the large segment of the target population that is motivated more by a general desire for self-improvement.

- Sundet and Galbraith (1991) argued that adult educators need to better understand the rural subculture to effectively combat deterrents and increase participation. However, they cautioned against making overly broad generalizations about the barriers perceived by rural adults, because of the subgroup differences that exist.

In light of the diversity of potential and current participants, Valentine and Darkenwald (1990) wrote that to increase enrollments, planners and administrators "need to learn more about their learners and the things that make participation difficult or impossible" (p. 39). In an earlier study, the same authors suggested that program planners conduct barriers research among their own potential participants, to gain an understanding of what affects them most (Darkenwald and Valentine 1985). Similarly, Ellsworth et al. (1991) noted that each educational institution must understand the barriers faced by its own students before seeking ways to reduce or eliminate those perceived obstacles.

The studies we reviewed reflected a range of opinions on whether policies could indeed be adopted to address various types of barriers to participation. Some authors seemed fairly optimistic about the potential for successfully addressing barriers. For example, Sherman (1990) argued that to remove barriers to participation in ABE, child care should always be made available, local community organizations should help defer the costs of the GED, class schedules should be flexible to accommodate working students, transportation problems could be solved with vouchers, and that efforts need to be made to improve potential participants' self-images and to address more dispositional barriers. Similarly, Watt and Boss (1987) concluded their article with a discussion of ways in which AE providers can address all four of the types of barriers they studied (attitudinal, situational, informational, and institutional). For example, they mentioned counseling and tutoring for helping students overcome self-confidence problems; child care facilities for students with children; and flexible course scheduling for students who work. Fisher (1983) also pointed out that most of the factors associated with AE participation are "subject to direct or indirect manipulation by educators with older adults at the program level" (p. 7).

A number of other researchers, however, pointed out the potential limits of policy interventions to reduce or eliminate certain kinds of barriers to participation. For example, Drake (1988) wrote, "It must be recognized that some deterrents to participation, such as cost, financial assistance for courses, and lack of interest, may be beyond the control of program planners to intervene, while others, such as course relevance and course location, are not" (p. 53). Valentine and Darkenwald (1990) saw attitude- and value-oriented barriers as examples of the kinds of things that may be--or perhaps should be--beyond the reach of program officials. "The extent to which adult educators should address themselves to manipulating the psychology of learners (e.g., by attempting to overcome indifference to learning by means of persuasive promotion) is an ethical issue that cannot be ignored in the quest for increased enrollments" (p. 38).[16]

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[16] It might also be seen as a practical issue: Should program officials spend money and time trying to convince people who are disinterested in enrolling in AE that they really should do so, when such resources might be better spent on attracting people who may already be interested but lack knowledge of existing courses, or on eliminating barriers for those who want to enroll but for a variety of reasons have not been able to do so?

In some cases these authors concluded that while policymakers and program officials could *theoretically* address a wide variety of barriers, such attempts may not be *practical*. A report on AE in Kansas (Central Research Corp. 1980) expressed this issue well. The authors argued that program offerors should consider locating and scheduling courses so that they will be more convenient to potential adult learners, but they went on to observe that barriers related to time and cost "present a dilemma to continuing education administrators. Should we attempt to provide more service to people at break even or less, or should we market more intensively to those for whom the barriers do not exist? To make courses appropriate, inexpensive and convenient is every continuing educator's dream but too often budget realities preclude the dream's realization" (pp. 35-36). Hayes (1989) also pointed out that "the limited resources of most educational programs may restrict efforts to overcome all barriers" (p. 52).

The kinds of policy-relevant observations summarized above are not unique to the field of AE. Several of the authors whose studies we reviewed on barriers to participation in other activities concluded their articles with similar discussions of the policy implications their findings. For example, some researchers pointed out the importance of understanding subgroup differences in the perception and experience of barriers to participation.

- Myers and Roth (1997) wrote that people at different stages of exercise adoption have different perceptions of barriers. For example, those in the contemplation stage perceive greater time/effort barriers than those in the training stage. For health professionals trying to encourage people to start and continue an exercise program, the authors concluded, it is important to identify the particular barriers (and benefits) perceived by specific groups.

- Williams and Basford (1992) concluded that if constraints could be entirely eliminated, or at least diminished, more nonskiers would participate in downhill skiing. But they also stressed the importance of the ski industry "thoroughly understanding the differences between nonparticipation subgroups before embarking on specific programs to translate latent demand into current demand" (p. 233).

- In their study on the relationship between motherhood and exercise, Verhoef and Love (1994) pointed out that different approaches will be needed for mothers who work and mothers who stay at home in order to remove the barriers they face.

- Having found that different socioeconomic groups (based on variables such as age, sex, education, and income) experience certain barriers to differing extents, Searle and Jackson (1985) suggested that recreation providers use target-marketing strategies to "fit" programs and services to different segments of the population. They argued that without information on the barriers that affect different subgroups, "public recreation agencies will not be able to serve the entire range of the population to whom they have a responsibility" (p. 247).

The non-AE studies we reviewed also reflected some differences of opinion about whether certain kinds of barriers to participation are amenable to policy intervention.

- McGuire (1984) suggested that procedures and programs be implemented to remove major barriers to leisure participation, even including counseling programs to improve the attitudes and self-confidence of those who feel constrained by approval-related issues.

- In contrast, having found that *intrapersonal constraints*--things such as self-perceptions of competence, past experiences, and knowledge--are particularly important reasons for nonparticipation in recreational sports, Alexandris and Carroll (1997) noted that such constraints are not easily addressed by program officials.

- In a review of two studies on arts-related leisure activities (Orend 1980; Reed and Marsden 1980), the National Endowment for the Arts (1984) concluded that barriers such as lack of knowledge of participation opportunities, lack of past exposure to a particular activity, and lack of facilities, are "amenable, at least in principle, to policy intervention" (p. 56). However, the report also cautioned that some barriers, such as the cost of attendance at certain activities, traffic-related problems, or geographic location, "cannot be readily overcome" (p. 57).

- Finally, Searle and Jackson (1985) argued that "work and family commitments are generally considered to be out of the control or sphere of influence of practitioners. Therefore, it would be best if efforts spent on removing or diminishing the effect of barriers were directed toward those items that can effectively be controlled or modified. These might include barriers such as overcrowding of facilities, lack of partners and opportunities, and lack of knowledge of where to participate or where to learn a recreation activity" (pp. 244-245).

E. CONCLUDING OBSERVATIONS

Two things are clear from the research studies that we reviewed. First, a myriad of factors have been hypothesized, and empirically shown, to be important in explaining participation and nonparticipation in AE. The reasons why people do or do not choose to participate in adult education are multidimensional; the decision is a complex one, influenced by factors ranging from self-perceptions and attitudes to the cost and timing of available courses. Second, different groups or types of people may face different barriers to the same activity.

As for the implications of the findings in the studies we reviewed, many authors agreed on the importance of trying to reduce barriers to participation by developing policy responses that reflect an awareness of how different types of people are affected by different barriers. However, there was no consensus on what types of barriers could or should be the focus of such ameliorative efforts.

Finally, in terms of technical/structural issues, none of the empirical research articles we reviewed explicitly prescribe one particular method or approach to studying factors that inhibit or promote participation in AE or other activities. The many decisions that researchers made in designing and conducting their studies (from what survey method to use, to what items constitute potential barriers, to what analytical methods to use) may reflect certain preferences, but the authors did not argue that their studies showed how barriers research *ought* to be done. Nonetheless, on the basis of our literature review, we must conclude that the barriers questions in the AE component of NHES:95 represented a somewhat unconventional, or atypical, approach to asking why people do not participate in various AE programs. (In comparison, the approach used in the AE component of NHES:91 was closer to the typical approach among the 19 studies we reviewed.) We discuss this conclusion, and its implications, in greater detail in the following chapter.

IV. CONCLUSIONS

In this chapter we draw upon both our review of various conceptual frameworks and our literature review of barriers research to discuss options for developing the next adult education component of NHES. Our discussion focuses on two major options. First we discuss how the conceptual frameworks we reviewed could be used to guide the redesign of NHES in a manner that would produce a much broader and deeper understanding of participation (and nonparticipation) in adult education. Second we discuss issues and options relating to redesigning just the barriers questions.

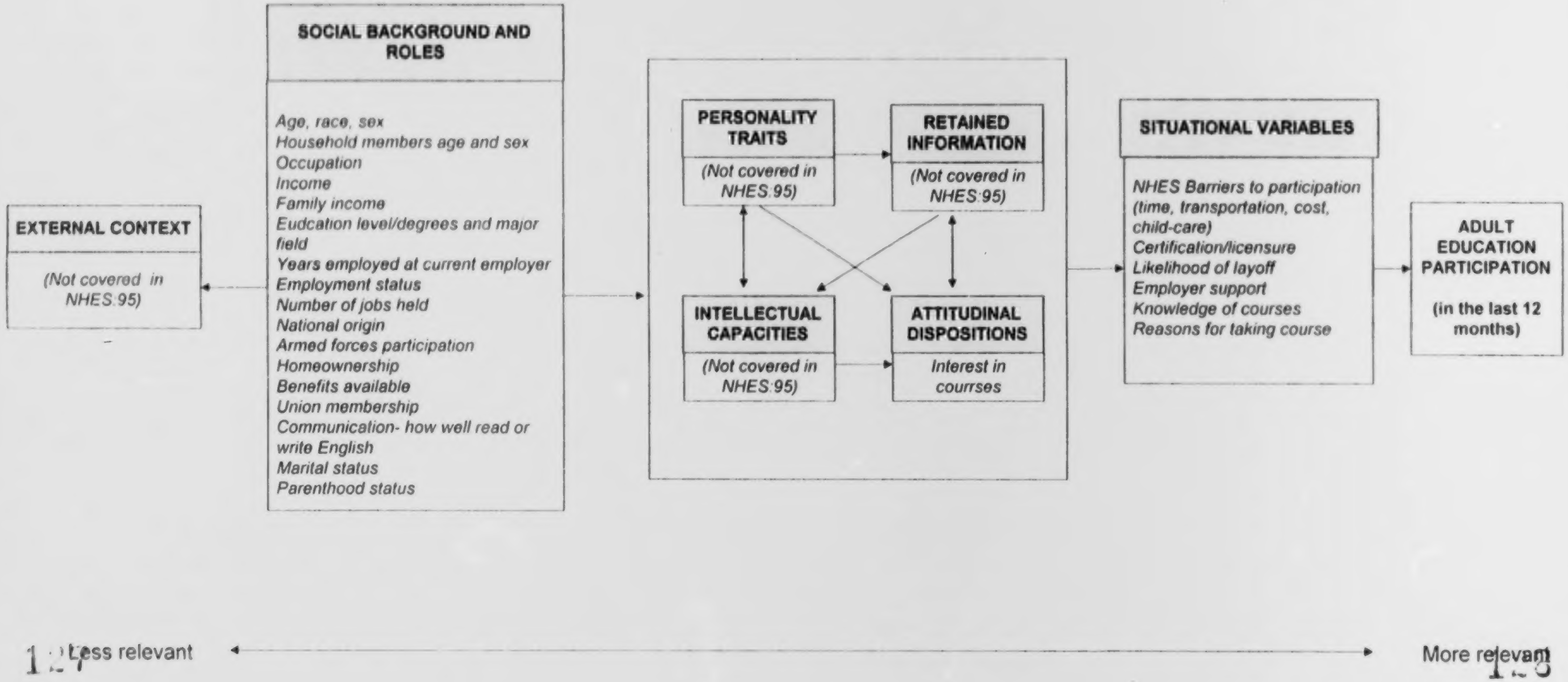
A. NHES AND CONCEPTUAL FRAMEWORKS FOR STUDYING ADULT EDUCATION

It is clear from our review of several conceptual frameworks that neither NHES:95 nor NHES:91 attempted to address the full range of issues that various theoreticians and researchers have considered important for gaining a complete understanding of behavior related to adult education activities. Until now, the content of the NHES adult education component content has been driven primarily by the policy goal of providing national information on the education-related activities of American adults. Its main objective has been to describe *what* people do, not *why* they do it (or don't do it). However, if NCES so desired, the scope and emphasis of the NHES AE component could be redesigned to provide substantially more information on the *whys* of adult education participation and nonparticipation. For frameworks to guide the redesign of NHES along these lines, NCES could look to the conceptual frameworks reviewed in chapter II.

1. The Single-Framework Option

One option would be to adopt a single framework, developing questions to cover all the concepts (independent variables) the framework identifies as important in explaining participation decisions/actions (the dependent variable). Attempting to assess how the existing variables on NHES:95 would fit into a particular framework and assessing which possible variables are not covered is illustrative of how this might work. Figures 4-1 and 4-2 illustrate where the existing NHES:95 survey variables might fit into two of the frameworks discussed in chapter II--the Interdisciplinary Sequential-Specificity Time-Allocation, Lifetime Model (ISSTAL) and the Psychosocial Interaction Model. The empty or near empty boxes illustrate those areas that NHES does not address at all or addresses in only a limited way.

Figure 4-1.--Example of classification of applicable NHES variables into conceptual framework of the Interdisciplinary Sequential Specificity Time-Allocation Model



Source: Adapted from Peter S. Cookson. " A Framework for Theory and Research on Adult Education Participation." Adult Education Quarterly, Vol. 36, No.3, pp. 130-144, Spring 1986

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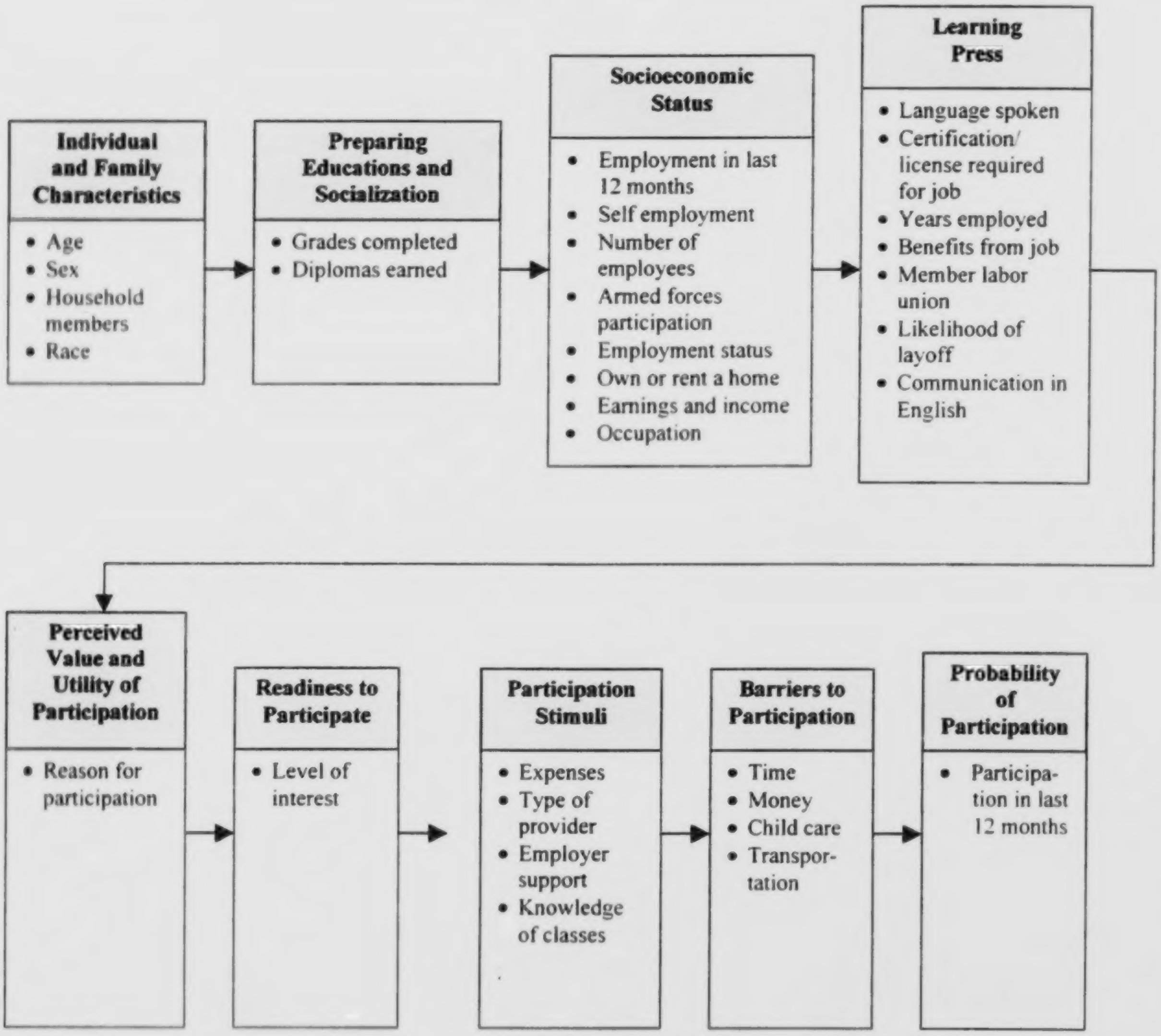
Figure 4-2.--Example of classification of applicable NHES variables into conceptual Framework of the Psychosocial Interaction Model



Source: Adapted from Darkenwald and Merriam in Scanlan, Craig L. *Deterrents to Participation: An Adult Education Dilemma.* Information Series No. 308. ERIC Clearinghouse on Adult, Career, and Vocational Education, Columbus, Ohio. Sponsoring Agency: Office of Educational Research and Improvement (ED), Washington, DC. 1986.

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One could attempt to design an NHES survey that would ensure that each of the key concepts in a selected framework was addressed by the survey in some manner. As discussed in chapter II, we can see from these illustrative diagrams that while NHES collects considerable demographic and socioeconomic status variables, there is less coverage of variables important to the social-psychological approaches. NHES:95 has few survey items that deal with personality, motivations, intentions, social norms, capability, self-actuality, past experiences with education, or attitudes toward adult education. Nor does it deal with education availability issues.

Other frameworks we reviewed, while containing insights of interest, are less suited for this exercise. For example, the Transtheoretical Model of Behavior Change describes a sequence of stages that people progress through when they decide either to stop participating in negative behaviors, or start participating in positive ones, and then seek to implement that change. While this framework may be useful to inform our thinking about possible ways to categorize NHES respondents (e.g., those who have not considered participating in AE, those who have considered participating but not attempted to do so, and those who participated recently or are currently participating), it does not suggest key concepts that NHES could measure to help explain why some adults participate and others do not. Similarly the Optimum Stimulation Level Frameworks and the Behavioral Models of Consumer Choice contain interesting concepts that may be important to measure, but would not support the task of "explaining differences in participation levels."

Other frameworks do not appear to be good candidates for adoption by NHES because of measurement issues. For example, the Theory of Reasoned Action and the Theory of Planned Behavior both portray the *intention* to engage in a particular activity as the key precursor and best determinant of whether a person will actually engage in that activity. Since intentions precede (and predict) actions, the two cannot be measured simultaneously in a single cross-sectional survey. Thus, researchers who have previously tested these theories have either (1) focused on intentions, rather than actual behavior, as the dependent variable of interest (see, for example, Michels et al. [1995] and Prestholdt and Fisher [1983]), or (2) measured intentions at one point in time and behavior at a later point in time (see, for example, Fishbein and Stasson [1990] and Ajzen and Driver [1992]). Because NCES presumably is interested in using the AE component of NHES to better understand how various factors influence adults' actual participation choices, rather than just their intentions, and because NHES is not a longitudinal survey, the theories of reasoned action and planned behavior probably cannot serve as models for a redesigned NHES.[1]

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[1] In addition, both theories attempt to explain *volitional* behavior. But in some cases, participating in certain types of adult education, such as work-related courses, may not be entirely voluntary.

Even frameworks that appear to cover many aspects of participation, such as those diagramed in Figures 4-1 and 4-2, may not be good candidates for wholesale adoption by NHES, because previous attempts to apply them in empirical studies have raised questions about their explanatory power and testability. For example, Cookson reportedly conducted two studies testing the ISSTAL model applied to adult education, incorporating measures of 58 independent variables, but "The measures did not prove useful in predicting participation, causing Cookson to reflect on the complex and multi-dimensional nature of participation in adult education and the utility of focusing more modest studies on the overlapping portions of the ISSTAL model variable categories" (Wikelund, Reder, and Hart-Landsberg 1992, p. 24).

Although NHES theoretically could adopt and test a single, existing conceptual model, we do not recommend this approach for two reasons. First, the selection of a single model might provoke criticism from supporters of alternative, competing frameworks; they might argue that other models are equally or more deserving of empirical testing through a government-funded, nationally representative sample survey. Choosing one model could be perceived as an endorsement of that perspective, as a kind of official recognition that the chosen model is somehow superior to other models.[2] Second, and more importantly, using only one framework as a model for NHES increases the risk of not measuring factors that really do have an important influence on adult education participation but are not included in the model. For example, focusing on a primarily psychologically-oriented framework could mean that the survey would not collect data on important sociological or economic variables.

2. A Better Option: Drawing Upon Multiple Models

We believe there is more potential benefit in expanding NHES to include important concepts common to multiple models. Rather than testing one specific conceptual framework, NCES could consider redesigning NHES to gather data on a diverse assortment of independent variables common to two or more frameworks. This strategy would enable analysts to test a wide variety of hypotheses about factors that influence adult education participation decisions. The goal would be to collect data that support diverse approaches to analyzing factors associated with participation (and nonparticipation), from simple crosstabulations, to correlation analyses, to more complex multivariate regression analyses. This could be a major boon to knowledge in the field of adult education, because heretofore most studies attempting to test models of participatory behavior have had to rely on small and often nonrepresentative samples.

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[2] Even *proponents* of the chosen model might raise objections to how it is adapted and implemented in the survey, or to the way the analysis is conducted, especially if the results do not seem to support the framework in question.

Below we list several key variables that we think NCES should consider including in NHES if it is redesigned with the goal of obtaining broader and deeper information on adult education participation. Our criteria for identifying these variables are that they (1) are common to multiple conceptual frameworks, and (2) appear, at least upon initial consideration, to be possible to measure in a telephone survey.

- **Demographic/Background Characteristics.** As noted elsewhere, NHES has always collected a substantial amount of data pertaining to respondents' backgrounds and demographic characteristics that various conceptual frameworks might view as having a potentially important influence on adult education participation. These variables include age, sex, race/ethnicity, place of birth and citizenship, family composition (age and number of children), educational attainment, English language skills, employment status, occupation, union membership, income, participation in various benefit programs, home ownership, and area of residence (zip code). Based on our framework review, in general, we believe NHES should continue to collect such information.[3]

- **Life Events and Transitions.** Various life events and transitions can change a person's perceived need or ability to take an adult education class. Introducing questions on recent major events and transitions in adults' lives would not only address a construct common to several of the theoretical frameworks we reviewed (Knox and Videbeck 1963; Cross 1981; Darkenwald and Merriam 1982; Cookson 1986), but could also contribute to resolving disparate findings from empirical research: Aslanian and Brickell (1980) reported that a high percentage of AE participants sought learning in response to triggering life events, but Henry and Basile (1994) found that such events decreased the odds of participation. Furthermore, questions about life events/transitions could easily be incorporated in a revised NHES. For example, a single question could list several potentially important experiences--examples might include marriage, divorce or separation, widowhood, childbirth, children starting school, children leaving home, layoff or unemployment, and retirement--and respondents would be asked to indicate whether or not they had experienced each of them in the preceding 18 months.

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[3] However, if a redesigned NHES along the lines we are suggesting here requires cutting existing/previous items to make room/time for new questions, some of these background questions might be expendable. It is difficult to predict whether/how some of them might be important in participation decisions. To assist in such judgements, NCES might be able to examine the relationship between various background variables and participation using data from the 1991 and 1995 AE components. Variables not associated with participation might be dropped to make room for other questions.

- **Past Participation in Adult Education.** NHES has traditionally asked about participation in adult education during the preceding 12 months only. Some conceptual frameworks, however, have posited that participation in adult education at one point in time has an important influence on the likelihood of future participation. One way NHES could test this proposition is by asking respondents whether or not they had ever participated in adult education prior to the previous 12 months, or in a narrower time period, such as during the past five years. Another way NHES could investigate this proposition is by asking respondents whether they intend to (or how likely they are to) take adult education courses in the future. Questions such as these could be asked once about all types of adult education, or repeatedly about different, specific types of classes.

- **Other Participatory Behavior.** Some conceptual frameworks hold that AE participation should be viewed in the context of an individual's general patterns of social activity. People who currently or have always tended to participate in other activities may be more likely to participate in adult education. NHES could address this idea by presenting respondents with a short list of common participatory activities--such as attending religious services, attending meetings at a child's school, attending meetings of a civic club or service organization, participating in a sports and recreation league, etc.--and asking either (1) whether or not they currently/regularly participate in each one, or (2) the extent to which they usually participate in each one, using some kind of frequency scale such as number of times per month.

- **Co-Participants.** Participation in adult education may be more likely when other people in an individual's reference group also participate. This issue could be addressed in NHES by asking respondents whether salient others--close friends, co-workers, and family members--have participated in any (or in certain types of) adult education courses during the past 12 months.

- **Physical and Mental Health.** Since some conceptual frameworks suggest that the more physically and mentally healthier people are, the more likely they are to participate in adult education (and/or other activities), a question could be added to NHES asking respondents to rate their own general or overall health status during the past 12 months, such as on a scale ranging from poor to excellent. Alternatively, a question could be developed that assessed the extent to which respondents feel that their health prevents them from engaging in the types of activities they prefer to do.

- **Intentions.** According to the Theory of Reasoned Action and the Theory of Planned Behavior, intentions are the most important, direct precursor to action/behavior. Participants may be assumed to have formed an intention to participate prior to actually taking an adult education class. It is possible, however, that some nonparticipants also formed intentions to participate, but did not do so--perhaps because they were prevented from doing so by some (possibly unanticipated) barrier or obstacle. The concept of intent has not been measured in past NHES adult education components. In NHES:95, for example, nonparticipants were asked whether they had been interested in taking certain types of courses and whether they knew of available courses they could have taken.[4] Yet having some degree of interest and reporting knowledge of available courses is not the same as having an intention to participate. In redesigning NHES, NCES might consider either replacing or supplementing the barriers screener questions on interest and knowledge with a question or two to gauge nonparticipants' intentions regarding participation. The survey could ask, for example, whether taking a course was something they had *planned to do*, and/or how strong had been their desire to take a course. Then, perhaps only those who had actually intended to take a course might be asked about barriers or obstacles that prevented them from achieving their objectives.

- **Perceptions of Barriers.** As is clear from chapters II and III, barriers have been considered by some theorists as an important factor in participation decisions and choices, and have also been the subject of considerable research. Therefore, if NHES is redesigned so as to gather more extensive data on factors associated with participation in adult education, the topic of barriers may be a reasonable one to continue addressing. Later in this chapter we describe how past NHES questions on barriers have differed from approaches used in other empirical studies and suggest several possible changes in the NHES approach. That discussion, however, is based largely on the assumption that NHES will not be substantially redesigned and that barriers questions will be the primary means of exploring social-psychological and other non-background factors affecting participation decisions. It should be noted that if NHES *is* redesigned along the lines we are discussing in this section, many of the types of items other researchers have included in lists of potential barriers might be addressed in other ways, through other lines of questioning. That is, in a redesigned NHES, rather than asking respondents directly whether various factors--for example, their health or their attitudes toward schooling, or the degree of support they get from salient others--deterred or prevented them from taking a course, concepts/variables like these would be measured elsewhere in the survey, not labeled as potential barriers. It would then be up to analysts to determine the role that these factors had in influencing whether or not people participated in adult education.

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[4] What's more, the reinterview showed that answers to these questions were not at stable as might have been desired.

- **Perceptions of Benefits.** The concept of what people expect to gain from participation in various activities has a key place in several theoretical frameworks we reviewed, including the Theory of Reasoned Action, the Theory of Planned Behavior, and the Psychosocial Interaction Model. As Wikelund, Reder, and Hart-Landsberg wrote, "At the heart of an adult's decision to participate in activities to acquire new skills and knowledge is the individual's perception of the benefits of participation" (1992, p. 18). Thus, questions on the benefits of participation--either anticipated or realized--would seem to be good candidates for addition in a redesigned NHES adult education component. One strategy, used in some empirical research, is to ask benefits questions of all respondents, and then compare the answers of various groups, such as (1) participants and nonparticipants, or (2) those who had no intention to participate, those who intended to but did not, and participants. Another strategy would be to ask only participants about the benefits they expected to or did receive. In the past, researchers have typically explored perceptions about the benefits of participation in much the same way they have studied barriers to participation--by developing a list of items and asking respondents to rate the importance of each one on some kind of standard scale. This would probably be the best model for NHES to adopt.

- **Motivations.** The concept of motivations--which can be defined as people's main reasons for doing things--is similar to, yet distinct from, the concept of expected benefits. For example, an individual might expect to get various benefits out of an adult basic skills class, such as learning new things, meeting new people, and earning more money, but her chief reason for enrolling in the class might be to improve her self-image or self-esteem. Identifying and understanding motivations for participation has been a "common thread in the research" on adult education (Wikelund, Reder, and Hart-Landsberg 1992, p. 17). NHES:95, for example, asked participants to identify their main reasons for taking certain classes.[5] If NHES continues to ask participants about motivations (which generally seems like a good idea, if time is available), we suggest, based on our review of various conceptual frameworks and some empirical research studies, that the list of possible answers be expanded to include more "personal" or psychosocial reasons.

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[5] Standard answer options included things such as to improve/advance in current job, to meet requirements for a degree or certificate program, and for personal reasons.

- **Reference Group Opinions.** A few conceptual frameworks we reviewed, including Rubenson's Recruitment Paradigm, the Theory of Reasoned Action, and the Theory of Planned Behavior, describe the importance of what salient others think about the behavior or activity in question.[6] An individual who perceives approval, support, or encouragement from others whose opinions he/she values is considered more likely to participate in adult education than someone whose reference group discourages or disapproves of his/her participation. This issue could easily be addressed in NHES by asking participants and nonparticipants to rate the extent to which salient others--such as close friends, co-workers, and family members--support/approve/encourage their decisions and actions concerning adult education.

- **Attitudes/Opinions Toward Education.** The attitudes of potential participants are a key concept in several conceptual models. Following the Theory of Reasoned Action, for example, attitudes toward participation in adult education would be considered the product of (1) people's beliefs that participation would lead to certain outcomes and (2) their evaluation of those outcomes; in turn, attitudes are seen as having a major influence on people's intentions. Attitudes also play a central role in the ISSTAL model and the Chain-of-Response Model. Judging by these various theoretical perspectives, two kinds of education-related attitudes might be important to explore in a redesigned NHES. First, the survey could try to measure respondents' opinions toward schooling in general, particularly based on their past experiences. (This might be especially important for adults who did not attend college, since all their past schooling was mandatory.) Such a question might ask respondents to think back on the last time they attended school full-time, and solicit their opinions about the overall experience on a scale ranging from "highly unfavorable" to "highly favorable." Second, the survey could try to measure attitudes specifically regarding adult education classes. Respondents could be asked to describe their current views of adult education on a scale similar to the one mentioned above.[7]

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[6] In the case of the latter two theories, a concept of equal importance is a person's motivation to comply with the wishes of those salient others.

[7] When respondents express negative views about adult education, it might also be interesting and informative to probe for the reasons why they feel that way. For example, do they see it as too similar to their previous (negative) experiences, or perhaps as uninteresting or unchallenging? A beginning list of such reasons might be gleaned from some of the barriers studies reviewed in chapter III.

- **Role of technology and availability of other options to formal adult education courses.** In an age of increasing use of technology and self-service, many people may choose to acquire skills by means other than taking a formal class. This raises issues of deciding to use a group or individual setting for educational activities. It also raises the issue of credentialing and its relationship to the choice to participate in adult education. If NCES is interested in expanding the scope of information collected on adults involvement in education, another option would be to develop more questions about the role of technology on adult education and distance learning activities. Past AE components of NHES have focused mostly on formal class educational opportunities, such as traditional structured classes with an instructor. However, it is clear that technology has made possible more opportunities for adults to learn things and educate themselves in less formal ways such as self-directed home study. Recent and expected future developments in technology may make this kind of learning even easier and more prevalent than it is now. Thus, it may be a promising issue for NHES to explore in greater depth.

In conclusion, we do not mean to imply that NCES should incorporate questions measuring *all* of the aforementioned variables in the next NHES adult education component. To make decisions about what items ultimately should be included will require (1) cognitive lab work and pretesting to investigate the viability of various questions and (2) careful thinking by NCES officials--perhaps informed by expert panelists from the field--about what variables/concepts seem most important to add to NHES, and about which types of data currently collected should be dropped to make room for the new items.[8]

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[8] Given the limited time in which NHES interviews must be completed, it is obvious that expanding the survey to include even a portion of the variables we have described here would require that questions addressed in previous versions would need to be dropped. However, a discussion of what topics would be good candidates for deletion was beyond the scope of this project.

3. The Decision-Making Process

Most of the conceptual frameworks we reviewed in chapter II were developed to explain participatory behavior. As such, they typically described the key concepts or variables considered most important in influencing people's decisions about various behaviors and activities. They usually did not aim to describe the *processes* that people follow in making their decisions, such as the order in or extent to which people take into consideration various factors or information when deciding whether or not to enroll in an adult education class. One notable exception, however, is the economic perspective, which suggests that individuals rationally weigh the anticipated benefits and costs of various plans, choosing to engage in a particular activity when the former outweigh the latter.

If NCES is interested in redesigning NHES in a way to not only measure key variables hypothesized as having an important influence on participation outcomes, but also to give a better understanding of how people reach their decisions, then the economic perspective may be a good model to use. First, the survey would have to be designed to distinguish between respondents who had at least some interest in possibly taking an adult education class from those who had no interest whatsoever; it would not make sense to ask people why and how they decided to enroll or not enroll in a course if the decision was not one they faced. Second, questions would have to be developed that probe whether and how the selected respondents compared the perceived costs and benefits of participation.

For example, respondents could be asked directly whether (or the extent to which) they consciously weighed the potential costs and benefits when they were deciding about taking an adult education class. Another question might ask respondents to describe their personal assessment of the potential costs and benefits of adult education on a scale such as the following: benefits greatly exceed costs, benefits somewhat exceed costs, benefits and costs are about equal, costs somewhat exceed benefits, or costs greatly exceed benefits. Yet another option would be to explore what specific costs the respondents see as most important or prohibitive.[9] In such a line of questioning, it might be important to remind/instruct respondents that "costs" include not only the tuition, fees, and other expenses necessary to pay for the course, but also (1) related expenses such as the cost of child care or transportation, and (2) the opportunity costs of other ways they could spend their time.

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[9] We discuss questions about benefits earlier in this section; we did not list "costs" earlier as a key factor to investigate because it was mentioned only in a single theory/model, the economic perspective.

B. ISSUES AND OPTIONS FOR REDESIGNING NHES BARRIERS QUESTIONS

We recognize that a major redesign of NHES along the lines discussed above may not be viable. For example, NCES officials may decide it is more important to continue collecting similar data on adult education as in the past, to produce statistics about national trends. However, even if the next AE component of NHES is designed generally similar to the previous two, our work in chapter III raises several issues and options that NCES may want to consider in revising how the survey addresses the topic of barriers to participation.

1. How NHES:95 Differed from Other Surveys in Addressing Barriers to AE Participation

The AE component of NHES:95 did a number of things substantially different from the typical approach to studying barriers used in the empirical research studies we reviewed. In part, these differences reflect the use of a telephone RDD mode and the need to cover several different types of adult education behavior in one survey. These differences are outlined below.

- First, NHES:95 began by using a very short list of four broad, general types of barriers (time, money, child care, transportation). Then, based on which item was designated as most important by the respondent, the survey went on to ask about more specific barriers within these categories. The more specific barriers listed in the second tier sometimes overlapped or combined factors in the first tier. In contrast, most surveys we reviewed presented respondents with only one list of specific potential barriers and then used factor analysis to determine how these individual barriers items grouped together into broad types or categories. For an illustration of how this fundamental structure of the NHES:95 barriers questions could cause difficulties for respondents answering the questions the first time, as well as in a reinterview, see exhibit 4-1.

- Second, if respondents rated more than one barrier equally they were asked to choose one as the most important barrier. They were asked to do this twice--once among the broad group and once among the more specific group of barriers. While it is not uncommon in a telephone interview to ask respondents to select the most important items from a list of items, we found this done only once in the barriers studies we reviewed (Orend 1980). None did it twice in the manner NHES used.

Exhibit 4-1.--Illustration of potential problems with structure of NHES:95 questions on barriers to AE participation

Assume that for a hypothetical respondent, the only barrier to participation in a particular course was *the cost of child care* that she would have needed to obtain in order to take the course. The first barriers question immediately presents a dilemma by asking her to rate both "money or cost" and "child care" separately as major or minor barriers. In her mind, *the cost of child care* is a single problem, yet she is essentially forced to think of it as having two distinct components, or falling into two categories. It is easily conceivable that she might rate one major and the other minor, simply on the basis of a mental coin toss. But let us assume that she responds by rating both "money or cost" and "child care" as major barriers, reflecting her view of the two things as closely interrelated.

The next question asks her to declare which of the two major barriers she named is the main one. This question poses the problem of having to choose either "money or cost" or "child care" as superior, which she had tried to avoid in her response to the previous question. Not knowing how best to respond to this dilemma, suppose she does a mental coin toss and says "money or cost."

In the next question, she is asked to rate each of four specific barriers related to money or cost as major, minor, or not a barrier. This she is able to do easily, because the barrier she had in mind initially, "the cost of child care," is one of the choices offered.

In a reinterview, however, faced with the same set of questions, any mental coin tosses she does might come out the other way, leading her down a path of different questions and answer choices. In this case, if she were reinterviewed and her mental coin toss for the second question came up "child care," she would still have been able to cite "the cost of child care" in the third question, because it is also listed as a specific barrier under the category of barriers related to child care. (Two other specific barriers are also listed under two categories in the third barriers question: "the cost of transportation" is listed under both cost and transportation, and "the travel time to and from courses" is listed under both transportation and time.) Nonetheless, although she ultimately cites the exact same barrier, she would be considered to have given different responses in the reinterview.

- Third, NHES:95 asked respondents to rate how serious a problem various barriers were for them using a three-point scale, whereas most studies we reviewed used four- or five-point scales to measure the importance of potential barriers.

- Fourth, as indicated above, virtually all the potential barriers listed in NHES:95 can be considered *situational* or *institutional*, pertaining either to constraints associated with adults' life situations (such as family or work responsibilities, or transportation problems) or to aspects of the classes available (particularly costs). As is clear from the review in chapter III, however, most studies on barriers to participation in AE have included *dispositional* barriers, pertaining to adult's attitudes and perceptions. In addition, many studies have included *institutional, opportunity,* or *informational* barriers, pertaining to what adult educational opportunities are available and known to respondents.[10]

- Fifth, in NHES:95 only nonparticipants were asked about obstacles to their participation in AE classes. In contrast, many other surveys on barriers to participation in AE have addressed barriers questions to participants, as well. This difference in to whom barriers questions are addressed to reflects different definitions of barriers. In NHES:95, barriers were defined as obstacles that prevented people who wanted to participate from doing so. Many other studies, however, have conceptualized barriers as deterrents that prevent people from participating to the extent they would like.

- Sixth, the AE component of NHES:95 excluded from the barriers questions nonparticipants who said they were not interested in participating or were interested but did not know of any classes they could take. Among the barriers surveys we reviewed, however, it was much more common to include items measuring interest and knowledge in the list of potential barriers answered by all respondents.

- Seventh, NHES:95 used the same list of barriers for three different types of AE (ESL classes, basic skills and GED classes, and work-related courses). While some of the studies we reviewed addressed barriers to participation in just one particular type of AE (see, for example, Beder 1990b on ABE, and Hayes 1989 on ESL), the others addressed barriers to participation in AE in general; none of them separately addressed barriers to participation in different types of AE in a single survey.[11]

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[10] The two screener questions in NHES:95, on whether nonparticipants were interested in taking a certain type of class and knowledgeable about classes available, can be seen as somewhat addressing respondents' dispositions and level of information, respectively, but many other studies have investigated these types of barriers in greater detail. The barriers question in the NHES:91 AE component, while in many respects much closer to the typical approach to barriers research, also listed primarily external barriers.

In pointing out the major differences between NHES:95 barriers questions and those in other empirical research studies we reviewed, we are *not* suggesting that all aspects of the approach used in NHES:95 were inappropriate. For example, (1) a three-point response scale may be the most appropriate way to measure the relative importance of various barriers over the telephone; (2) asking barriers questions only of nonparticipants is a very reasonable approach given the burden of other questions asked of participants; and (3) it is a legitimate research question whether the reasons for nonparticipation in one type of AE are different from the reasons for nonparticipation in others types of AE.

However, the many differences between the approach used in NHES:95 and that used in other surveys, the (somewhat inconclusive) results of the NHES:95 AE reinterview study, and our own careful examination of the NHES:95 AE barriers questions, all suggest that changes may be called for if the next AE component of NHES is to address more effectively the topic of barriers to participation. We discuss this issue in detail in the final section of this chapter.

2. A Note on Reliability of Barriers Questions

While changes to the structure and inclusiveness of the NHES barriers items may lead to greater reliability of the barriers items, our review leads us to tentatively conclude that barriers questions in NHES may always have higher differences rates in a reinterview than other items on the survey.[12] This conclusion is based on two reasons. First, people simply may not be able to give highly consistent explanations for why they did *not* engage in various types of activities in the past year. The subject may not have a great deal of salience. Even survey respondents who say they were interested in participating and knew about available courses might not have put much prior thought into the specific things that prevented them from enrolling. Yet a survey like NHES asks people to make on-the-spot judgments about the relative importance of things such as "the travel time to and from courses" and "a desire to spend time with your family" on their participation decisions.

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[11] There were two examples of this approach among the non-AE studies we reviewed. Orend's (1980) survey on arts-related leisure activities asked separate questions about the barriers to participation in several different types of activities, as did Dowdell's (1994) survey on participation in union activities. In both these cases, however, there was a single question with a relatively short list of barriers for each activity.

[12] Internal reliability of the barriers items is a different issue.

Second, people might not be able to give as accurate and consistent answers to barriers questions in response to a telephone survey as they would in response to a written questionnaire. This may be especially true if the survey asks respondents to assess the relative importance of a predetermined list of potential barriers, rather than asking an open-ended question about reasons for nonparticipation. With a printed questionnaire, respondents are able to view all the items in a list simultaneously and consider them relative to one another before ranking the importance of each individual item. In contrast, when the same list of items is presented sequentially over the phone, respondents must judge each item without knowing what other items could be next; an item they first rate as a major barrier could really be a minor barrier compared with the next item read to them.

Thus, it may be unrealistic to expect that answers to barriers questions in NHES will be as consistent as other items between two administrations of the same instrument. Nonetheless, barriers questions could still be looked to for a general indication of the factors that prevent or inhibit adults from taking AE classes.

C. RECOMMENDATIONS CONCERNING AE BARRIERS QUESTIONS

Our first suggestion is that before committing to redesign the barriers questions for the next AE component of NHES, NCES should consider evaluating the relative usefulness and value of the type of information that has been collected on barriers in the past, and that is likely to be collected in the future. This issue might best be addressed by asking NHES data users and analysts whether the variables have been useful and how they might have been more useful. This could be done through focus groups or unstructured interviews with AE researchers, practitioners, officials representing various public and private AE programs, and policymakers from all levels of government. If NCES decides to eliminate barriers questions altogether from future AE components of NHES, it would enable NCES to examine certain aspects of AE participation in greater detail than in the past, or even to introduce whole new areas of questioning, as described earlier in this chapter.

If NCES decides to continue asking barriers questions in future AE components of NHES, we suggest several changes and areas that we think need re-consideration in redesigning those questions.

- First, the barriers questions probably should not start out by asking about a very small number of broad categories and then moving to a more detailed list of specific barriers, as was done in NHES:95. While this may facilitate a telephone interview with a potentially long list of items, the four categories used (time, money, child care and transportation) are not as distinct or as exhaustive as needed for this structure to work well. As discussed above, the wording and format of that approach likely makes it difficult for some respondents to choose the most appropriate answer (and this uncertainty would contribute to high gross difference rates in a reinterview). We believe it would be better to use a single, somewhat longer list of more specific barriers, as was done in NHES:91 and nearly all of the studies we reviewed.

- Second, in developing a new list of potential barriers, NCES should consider building on previous barriers research in AE and other fields. For example, some instruments have been tested for internal reliability and used in multiple studies. Although the time constraints and cognitive issues associated with a telephone survey like NHES may rule out using lists as long as those employed in many AE barriers surveys (with 30 or more items), a review of such instruments might yield a manageable list of perhaps 10-15 potential barriers for the next NHES. Such a list might also include specific barriers items used in NHES:91 and NHES:95, which would allow some trend analysis, an important objective of NHES.

- Third, in developing a new list of potential barriers, NCES should also strongly consider increasing the number and variety of non-situational barriers, to provide more detailed information on the full range of reasons why people do not to participate in AE.

- Fourth, continuing to use a three-point response scale (such as "major obstacle," "minor obstacle," or "not an obstacle;" or "very true," "somewhat true," or "not true") seems like a reasonably good approach. Trying to get a general sense of the relative importance of various barriers certainly provides more useful information than simply asking whether or not something was or was not a barrier (as was done in NHES:91). However, NCES may also want to consider using a wider scale, such as the five-point scales used in many of the studies we reviewed, to allow respondents to make finer distinctions.

- Fifth, continuing to ask barriers questions of nonparticipants only--essentially defining barriers as things that prevented people from participating at all--is a reasonable approach; it makes sense intuitively and logically, and has been followed by various other researchers. On the other hand, also asking participants about barriers they experienced--essentially defining barriers as things that prevented people from participating at all, *or* to the extent they desired--is a reasonable approach too, one that has been used in other surveys, including NHES:91. If NCES were to adopt this approach for the next AE component of NHES, it would enable researchers to analyze how participants and nonparticipants perceive barriers differently.

- Sixth, if the next NHES addresses barriers questions only to nonparticipants, NCES may want to consider reexamining the idea of screening out those who are not interested in taking any AE classes or interested but not knowledgeable about available classes. Although this screening approach may be reasonable, it was not used in any of the studies we reviewed. It also substantially reduces the number of respondents who answer the barriers question. In addition, many of the surveys we reviewed listed lack of interest and lack of knowledge with all the other barriers, as conceptually indistinct. Finally, the 1995 reinterview study raised questions about the reliability of these screener items. It is possible, for example, that some people said they were interested mainly because they did not want to appear "disinterested" in learning. Similarly, some respondents might have had only a very vague sense of what courses were available.[13] The obvious alternative to the approach used in NHES:95 would be to ask all nonparticipants about the barriers they faced, including lack of interest and lack of knowledge in the list of potential reasons for not participating.

- Seventh, while most respondents had to answer the barriers questions only once, some might have had to answer more than once. NCES should analyze the extent to which responses to barriers questions in NHES:95 differed for the three types of AE (basic skills and GED, ESL, and work-related). If it is found that the reasons cited for nonparticipation did not vary substantially by type of AE--that is, if the same barriers were considered important in all three areas--then NCES should consider designing the next AE component for NHES to ask barriers questions only once, pertaining to all types of AE. This structure, used in NHES:91, would still enable analysts to examine, for example, whether the barriers cited by respondents who did not participate in ESL classes were different from the barriers cited by respondents who did not participate in work-related classes.

Finally, no matter how the barriers questions are changed for the next NHES AE component, NCES should consider testing the reliability of the items prior to using them in a national study and this test should be with a sufficient number of respondents to ascertain whether the items are working. This might be preferable to a reinterview after the items have been used nationwide. Even with a better design, however, for reasons discussed above, NCES should be prepared to accept that the reliability may be lower for the barriers items than for other items.

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[13] Another potential problem with the knowledge screener question is the wording, "that you could have taken." Some people may have said "no" even though they did know of a course, because they also knew they could *not* have taken it, for reasons such as those addressed in the subsequent barriers questions. Yet such respondents would not have been asked the barriers questions.

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*Watt, Connie F. and Marvin W. Boss. "Barriers to Participation in Adult Upgrading Programs: An Exploratory Study." Adult Literacy and Basic Education, Vol. 11, No. 3, pp. 113-122, 1987.

Weinstein-Shr, Gail. "Literacy and Older Adults in the United States." NCAL Brief, National Center on Adult Literacy, 1994. (ERIC #ED378367)

Wikelund, Karen R., S. Reder, and Sylvia Hart-Landsberg. "Expanding Theories of Adult Literacy Participation: A Literature Review." National Center on Adult Literacy, 1992.

*Williams, Peter W. and Richard Basford. "Segmenting Downhill Skiing's Latent Demand Markets." American Behavioral Scientist, Vol. 36, No. 2, pp. 222-235, November-December 1992.

Young, Robert and Anne T. Kent. "Using the Theory of Reasoned Action to Improve the Understanding of Recreation Behavior." Journal of Leisure Research, Vol. 17, No. 2, pp. 90-106, 1985.

Zuckerman, Marvin. *Sensation Seeking: Beyond the Optimal Level of Arousal.* Hillsdale, NJ: Erlbaum, 1979.

APPENDIX

This appendix presents detailed write-ups of the 33 empirical research studies reviewed for this project. It is divided into two sections: first are the studies pertaining to adult education; second are the studies pertaining to other types of activities. Each section is ordered alphabetically by author, with each write-up beginning at the top of a page. Following a standard format, the write-ups provide a bibliographic reference, an overview of the research objective and type of activity studied, a summary of the research methods utilized and the population studied, a review of the structural/technical issues of how key questions were constructed and administered, a summary of the study's findings on factors influencing participation decisions (in the case of AE-related studies, but not for the others[1]), and an overview of the author(s)' conclusions.

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[1] We felt that the results of empirical studies in other areas may not apply to AE and therefore were not relevant to this project.

EMPIRICAL STUDIES OF PARTICIPATION/NONPARTICIPATION IN ADULT EDUCATION

A. Bibliographic citation:

Apt, Patricia Harper. "Adult Learners and Higher Education: Factors Influencing Participation or Nonparticipation Decisions." Alternative Higher Education. Vol. 3(1) 3-11, Fall 1978.

B. Objective/purpose/goal:

The study was designed to obtain information on factors that "could influence and possibly determine" adult participation in higher education.

C. Type of activity:

Higher education; specific definition not provided in article.

D. Research method:

The author used a customized version of the Educational Testing Service's Adult Learning Survey Questionnaire; the report does not indicate whether the survey was conducted by telephone or mail.

E. Research subjects:

Respondents were 117 adults, aged 18-89 years, from six counties in rural, western Iowa. The response rate was not reported.

F. Structural/technical issues:

Apparently, respondents were presented with a list of about 30 statements to measure their attitudes and motivations concerning the pursuit of higher education. The statements fell into two groups--those that explained why a person would participate in higher education, and those that explained why a person would not participate in higher education. Examples of the former included, *to improve my self image*, *for personal satisfaction or happiness*, and *to obtain a degree required for present or future job*. The negative factors, or barriers, included: *a feeling that I could not do the work*; *no interest in formal schooling*; *no reason or incentive for further education*; *too old to go back to school*; *teachers would not understand my learning needs and problems*; *reluctant to try new, unfamiliar way of learning*; *time required to complete program*; *transportation problems*; *travel time to location*; *convenience*; *child care problems*; and *financial cost*. We assume that respondents rated each statement on some kind of scale indicating the extent to which they felt it applied to them. Other than presenting the 30 statements, however, virtually no details about the questionnaire are provided in the research article; therefore, it is impossible to determine, for example, which sample members (such as current or past participants or nonparticipants) responded to which statements.

G. Substantive issues/findings:

Using factor analysis, the author determined that the individual statements fell into four groupings, or factors, that could influence adults' decisions concerning participation in higher education: two positive factors, deemed *self development goal* and *career goal*, and two negative factors, deemed *affective barrier* and *situation barrier*. (The first six barrier statements listed above constituted the affective barrier factor; the remainder made up the situation barrier factor.) The situation barrier factor had a much higher mean score than the affective barrier factor, suggesting that issues such as time and convenience are perceived as greater barriers to higher education participation than issues such as feelings about what the experience would be like. The self development factor had a slightly higher mean score than the career goal factor. The author also found relationships between respondents' background characteristics--such as prior educational attainment, age, marital and family status, occupation, income, and sex--and their responses to the various factors promoting or inhibiting higher education participation.

H. Conclusions/implications:

"If adults in the population studied are to become higher education students," the author concludes, "educators will need to plan programs that will minimize situational and affective restraints but at the same time reinforce goal factors" (p. 10).

A. Bibliographic citation:

Beder, Hal. "Reaching ABE Students: Lessons from the Iowa Studies." Adult Literacy and Basic Education, Vol. 14 No. 1, pp. 1-17, 1990. (1990a)

B. Objective/purpose/goal:

This article presents the results of two separate but related studies: one on adults' motivations for enrolling in an adult basic education (ABE) program, referred to hereafter as the Participant Study; the other on adults' reasons for not attending an ABE program, referred to hereafter as the Nonparticipant Study. The overall objective was to provide information on how best to reach potential ABE students. (The results of the nonparticipant study were first reported in Beder 1989; they are also reported in the following write-up, for Beder 1990b.)

C. Type of activity:

Adult basic education programs or courses in Iowa.

D. Research method:

Participant Study. Face-to-face interviews lasting an average of 30 minutes.

Nonparticipant Study. Telephone interviews lasting an average of 20 minutes.

E. Research subjects:

Participant Study. The population studied was all adults in Iowa enrolled in ABE programs during the fall of 1985. Lists supplied by course coordinators indicated a total of 3,090 students in 225 classes. A random sample of 351 adults was selected for the study, of which 523 participated--a 92 percent response rate.

Nonparticipant Study. The eligible population was adults (age 18 or older) in Iowa who had not completed high school and had never attended an ABE program. To identify eligible individuals, a screener survey was mailed to a sample of 9,000 adults in households listed in the white pages of state phone books. The sample targeted households with incomes under $20,000, to increase the chances of identifying people who had not graduated from high school. Of the more than 1,300 respondents to the screener survey who indicated a willingness to be interviewed, 175 who met the eligibility criteria were selected for the study. Of these, 129 were contacted, a response rate of 74 percent.

F. Structural/technical issues:

Participant Study. The participant questionnaire was divided into three sections, the first of which included 62 possible motivations for attending ABE. Examples include: *I want to learn new things*; *I want to set a better example for my children*; *I enrolled because I wanted to try something new*; *I need to learn to speak better*; *I want to know about how the government works*; *I want to get a better job*; *I need to prevent people from taking advantage of me*; *I need to earn more money*; *I want to get a high school diploma*; and *my family urged me to attend.* Respondents were asked to rate each item on a three-point scale, with 1 = not true, 2 = somewhat true, and 3 = very true. Other than presenting the list of motivations, the article provides no details on question wording.

Nonparticipant Study. The barriers section of the questionnaire began with the following instructions to respondents:

> There are many reasons why people who have not finished high school do not go to *adult* classes to earn a diploma. I am going to read a list of reasons which are true for some of the people we have talked to. After each reason I am going to stop. Then please tell me how true this reason is for you. Tell me if the reason is not true for you, somewhat true, or very true. Are you ready? How true *for you* are the following reasons why adults do not take classes to complete high school?

Thirty-two possible barriers were then read aloud, including: *a high school diploma wouldn't improve my life*; *I am too old to go back to school*; *I don't think that adult classes would be very good*; *I'm not motivated enough*; *it would cost too much*; *I'm not smart enough*; *it would take too long to finish*; *I don't know anything about high school classes*; *I haven't known where classes are*; *my friends would laugh at me*; *I don't like school*; *I don't have enough free time*; *I have to take care of my family*; *nobody knows I don't already have a diploma*; *I'm too set in my ways*; and *I couldn't pay for child care or transportation.* (This information on the details of question wording, etc., is taken from Beder 1989, which includes a copy of the questionnaire.)

G. Substantive issues/findings:

Participant Study. In addition to calculating the mean rating for each item, the author conducted a factor analysis to determine which items seemed to be addressing the same underlying concept or dimension. The results suggested 10 distinct factors: *self-improvement* (overall mean 2.49); *family responsibilities* (1.77); *diversion* (1.68); *literacy development* (1.68); *community/church involvement* (2.01); *job advancement* (1.60); *launching* (1.89), interpreted as mainly representing "motivations of young adults who are making the transition from adolescence to adulthood" (p. 8); *economic need* (1.89); *educational advancement* (2.55); and *urging of others* (1.34). The list of motivations in the preceding section presents the highest rated item in each of the 10 factors, respectively. Beder also conducted a cluster analysis, a strategy common in marketing, to develop profiles of common sociodemographic groupings with respect to their motivations for participating in ABE. He labeled the resulting six groups, "Mainstream Women," "The Urged," "Young Adults," "The Climbers," "Least Affluent/Least Employed," and "Low Ability Strivers."

Nonparticipant Study. In addition to calculating the mean rating for each item, the author conducted a factor analysis to determine which items seemed to be addressing the same underlying concept or dimension. The results suggested four distinct factors: *low perception of need* (overall mean 1.7); *perceived effort* (1.6); *dislike for school* (1.4); and *situational barriers* (1.7). Beder next conducted a correlational analysis, to determine whether any of these factors was associated with particular background characteristics. He found that the *low perception of need* factor was positively associated with age, widowhood, and retirement, and negatively associated with number of children in the home, last grade attended, and health status. In addition, the *situational barriers* factor was positively correlated with marriage, number of children in the home, and full-time employment, and negatively correlated with widowhood.

H. Conclusions/implications:

Beder concludes that multiple factors influence whether or not individuals participate in ABE, with some greater than others. Having shown that the population is not homogeneous, he points out that the ability of ABE providers to reach potential participants could be enhanced if the providers used approaches tailored to the characteristics and key motivations of the people comprising various cluster groups or market segments. Participants have both extrinsic and intrinsic motivations. "In essence," Beder writes, "this dichotomy represents the difference between what ABE students expect to 'get' and what they expect to 'feel'" (p. 15). He suggests that ABE that is focused narrowly on economic gain or career advancement will not appeal strongly to the large segment of the target population that is motivated more by a general desire for self-improvement.

Beder also notes that "for many eligibles either the demand for ABE is so low or the constraints are so great that participation is unlikely." Demand for ABE may be especially low among older people, which is important because many of those commonly defined as eligible for ABE are over age 60. While a finding of a "low" participation rate in ABE may be disturbing from a public policy perspective--the social need for a literate citizenry--it may be misleading from an individual perspective, in which many nonparticipants do not see a need for ABE instruction.

A. Bibliographic citation:

Beder, Hal. "Reasons for Nonparticipation in Adult Basic Education." Adult Education Quarterly, Vol. 40, No. 4, pp. 207-218, 1990. (1990b)

B. Objective/purpose/goal:

This article presents the results of a 1988 survey on adults' reasons for not attending an ABE program. (This was the same study described as the "Nonparticipant Study" in the preceding write-up of Beder 1990a. The results were originally reported in Beder 1989.) The objective was to provide information on why eligible adults do not participate in ABE.

C. Type of activity:

Adult basic education programs or courses in Iowa.

D. Research method:

Telephone interviews lasting an average of 20 minutes.

E. Research subjects:

The eligible population was adults (age 18 or older) in Iowa who had not completed high school and had never attended an ABE program. To identify eligible individuals, a screener survey was mailed to a sample of 9,000 adults in households listed in the white pages of state phone books. The sample targeted households with incomes under $20,000, to increase the chances of identifying people who had not graduated from high school. Of the more than 1,300 respondents to the screener survey who indicated a willingness to be interviewed, 175 who met the eligibility criteria were selected for the study. Of these, 129 were contacted, a response rate of 74 percent.

F. Structural/technical issues:

The barriers section of the questionnaire began with the following instructions to respondents:

> There are many reasons why people who have not finished high school do not go to *adult* classes to earn a diploma. I am going to read a list of reasons which are true for some of the people we have talked to. After each reason I am going to stop. Then please tell me how true this reason is for you. Tell me if the reason is not true for you, somewhat true, or very true.

> Are you ready? How true *for you* are the following reasons why adults do not take classes to complete high school?

Thirty-two possible barriers were then read aloud, including: *a high school diploma wouldn't improve my life*; *I am too old to go back to school*; *I don't think that adult classes would be very good*; *I'm not motivated enough*; *it would cost too much*; *I'm not smart enough*; *it would take too long to finish*; *I don't know anything about high school classes*; *I haven't known where classes are*; *my friends would laugh at me*; *I don't like school*; *I don't have enough free time*; *I have to take care of my family*; *nobody knows I don't already have a diploma*; *I'm too set in my ways*; and *I couldn't pay for child care or transportation*. (This information on the details of question wording, etc., is taken from Beder 1989, which includes a copy of the questionnaire.)

G. Substantive issues/findings:

In addition to calculating the mean rating for each item, the author conducted a factor analysis to determine which items seemed to be addressing the same underlying concept or dimension. The results suggested four distinct factors: *low perception of need* (overall mean 1.7); *perceived effort* (1.6); *dislike for school* (1.4); and *situational barriers* (1.7). Beder next conducted a correlational analysis, to determine whether any of these factors was associated with particular background characteristics. He found that the *low perception of need* factor was positively associated with age, widowhood, and retirement, and negatively associated with number of children in the home, last grade attended, and health status. In addition, the *situational barriers* factor was positively correlated with marriage, number of children in the home, and full-time employment, and negatively correlated with widowhood.

H. Conclusions/implications:

Beder states that the reasons eligible adults do not participate in ABE are multidimensional. But because attitudes toward and perceptions of ABE are central, he concludes that attracting nonparticipants will be difficult until either their perceptions, or the image of ABE, can be changed. Until people perceive a need for taking ABE, and develop and interest in doing so, "efforts to recruit them may prove to be simply futile" (p. 217). Situational barriers are more an issue for those who have an interest in participating.

A. Bibliographic citation:

Blais, Jean-Guy, Andre Duquette, and Gisele Painchaud. "Deterrents to Women's Participation in Work-Related Educational Activities." Adult Education Quarterly, Vol. 39, No. 4. pp. 224-234, Summer 1989.

B. Objective/purpose/goal:

This study's objective was to examine the reasons why women in one occupational group, nurses, did not participate in continuing education programs related to their profession.

C. Type of activity:

Continuing professional education courses (for credit).

D. Research method:

Mail survey; questionnaires sent to sample members' homes.

E. Research subjects:

The general population studied was French-speaking "diploma nurses" from Quebec, Canada. The researchers first identified all nurses from the Quebec Order of Nurses roster who said they were practicing in 1984. They then drew a stratified random sample of 2,063 individuals from different age groups and different regional districts. A total of 1,651 questionnaires was returned, an unadjusted response rate of 80 percent. Using survey results, the researchers narrowed the list of final subjects for the study to 909, reflecting all those respondent nurses who were "pure nonparticipants" in continuing education. "Pure nonparticipants were defined as those who had not taken part in any continuing education activities not scheduled during work hours (conferences, colloquia, workshops, training sessions, etc.) during the preceding 12 months" (p. 226).

F. Structural/technical issues:

The questionnaire featured a list of 50 things that might prevent or deter participation in credited continuing professional education activities. Examples included: *my employer does not assist with the cost of attending*; *it is difficult to get time off work for these courses*; *the courses were scheduled at inconvenient times*; *with all my other commitments, I just don't have the time*; *working conditions have become so difficult that I just don't feel like attending*; *I'm already getting a bit "burned out"*; *there are few incentives or rewards for my participation*; *getting another degree will not increase my salary*; *promotions are based on seniority, not years of professional* *education*; *most of my learning needs are met with on-the-job instruction*; *there are better things to spend my time and money on*; *often find it impossible to practice what I learned in basic nursing program*; *don't know which courses are available*; *course content not relevant to work needs*; *courses use unsatisfactory instruction methods*; *can't afford registration fees*; *poor health*; and *don't find participation to be personally satisfying*. Respondents were instructed to indicate the extent to which each item had influenced their decision not to participate, using a four-point scale: (1) *not at all*, (2) *slightly*, (3) *moderately*, and (4) *considerably*. (The questionnaire was based on one previously developed by Scanlan [1984], but revised on the basis of interviews and expert reviews to be appropriate for the population under study, and also translated into French.)

G. Substantive issues/findings:

The three individual barriers with the highest mean scores--that is, considered to have the greatest influence on the decision not to participate--were: *with all my other commitments, I just don't have the time* (item mean 2.91); *takes too much time to obtain a certificate or baccalaureate* (2.79); and *attending courses would infringe too much upon my personal life* (2.70). In contrast, the three lowest-rated barriers were: *the course sponsors had a poor reputation* (1.10); *my family/spouse objects to my outside activities* (1.14); and *I would feel out of place at the university* (1.29). Using a type of factor analysis, the authors concluded that the full list of barriers could best be divided into five conceptual groups, which they named as follows: *incidental costs*, *low priority for work-related activities*, *absence of external incentives*, *irrelevance of additional formal education for professional practice*, and *lack of information and affective support*.

H. Conclusions/implications:

The authors concluded that, "From the theoretical perspective, the five groups of reasons for nonparticipation identified in the present study represent the structure of deterrents for work-related educational activities for women working in a traditionally female profession" (p. 233). Having found that barriers items related to courses and providers were generally not seen as important in the decision not to participate--which was contrary to studies where both participants and nonparticipants were included--the authors suggest, "It may well be the case that such questions as course offerings and instruction methods only act as major deterrents when the decision to participate has been [made]" (p. 233). Finally, the authors argue that to accommodate the needs and interests of working women, given their conflicting role demands, training providers should focus on developing positive attitudes toward lifelong learning and also explore options for delivering services at the workplace.

A. Bibliographic citation:

Central Research Corporation. *Continuing Education Needs and Interests of Kansas Adults. A Statewide Survey. Winter 1979/80*. Report sponsored by the Kansas State Board of Regents and Washburn University of Topeka, KS. Topeka, KS: 1980. (ERIC #ED239029)

B. Objective/purpose/goal:

A central goal of this research project was "to better equip continuing education administrators and planners with survey information that can enable them to meet the expressed needs and interests of Kansas adults, and to ascertain conditions most likely to insure participation among those adults who want to continue their education" (p. 16). The study sought to provide a greater degree of specificity about continuing education needs and interests than had previous studies.

C. Type of activity:

The questionnaire typically referred to adults' possible "plans to go back to school or continue their education in some way." If necessary, interviewers were instructed to explain that

> "Continuing education" as we use the term is not limited to traditional academic courses taken for credit at a nearby college ... it can also refer to courses or training programs which would help someone prepare for a different job or vocation, or simply to a very short course lasting just several hours and presented at a local meeting place (i.e., a class on microwave cooking).

Furthermore, in a question about courses or programs taken in the past two years, interviewers were instructed not to count "courses taken while a full-time student, military training, or on-the-job training given by respondent's employer."

D. Research method:

In-person interviews following a structured interview schedule (questionnaire), conducted in the respondents' homes. The data collection instrument featured 93 questions and interviews took approximately 30 to 40 minutes to complete.

E. Research subjects:

The research subjects were 998 adults (age 18 or older) living in the state of Kansas. They were selected through a sampling model stratified to reflect the population of individual Congressional districts, and stratified within these districts to reflect areas of differing types/sizes of communities (rural/urban). Specific towns/cities and, finally, target addresses, were then chosen randomly.

F. Structural/technical issues:

Interestingly, the questionnaire begins by asking interviewees to "assume that you have decided to continue your education in some way and that any practical barriers (like money, transportation, enough time, and the like) have been removed." It then goes on to ask the respondents a number of questions about the kinds of courses and subjects that would interest them.

Barriers to participation are addressed more directly later, with a sequence of four questions. The first question asks, "If you take a look into the future and take into account the fact that practical barriers do exist, how likely do you think you are to involve yourself in some form of adult or continuing education within the next three years?" Respondents who answered "not likely," "definitely not," or "don't know" were asked the same question again, but using a 10-year time frame. Those who again answered "not likely" or "definitely not," were then asked, "Would you say that it is because you don't have a desire for additional education or because there are too many practical barriers?" Finally, those who answered "too many barriers" or "both" were asked an open-ended question, "What are the practical barriers that you would have to overcome?" Apparently up to two responses were recorded and coded.

Motivation for participating in continuing education was addressed implicitly through a variety of questions, such as one on why respondents "first got ... interested in more learning as an adult." It was also addressed explicitly in an open-ended question, although--interestingly--respondents were not asked to give their own personal motivations: "What do you think is the biggest reason which motivates people who decide to get more formal education as adults?" Apparently up to two responses were recorded and coded.

G. Substantive issues/findings:

Thirty-one percent of the interview subjects indicated they were not likely to or definitely would not participate in adult continuing education in the next 3-10 years; of these, about half explained that they had no desire to participate and about half mentioned having too many barriers. The practical barriers mentioned most frequently were (in descending order): *free time*, *cost*, *age*, *family obligations*, and *health*.

H. Conclusions/implications:

The report states that "To deal with the free time constraint, higher education institutions perhaps need to exhibit greater flexibility in locating and scheduling courses to minimize disruption for potential adult learners" (pp. 22-23). However, it also went on to say that the barriers of *free time* and *cost* present a dilemma to continuing education administrators. Should we attempt to provide more service to people at break even or less, or should we market more intensively to those for whom the barriers do not exist? To make courses appropriate, inexpensive and convenient is every continuing educator's dream but too often budget realities preclude the dream's realization (pp. 35-36).

A. Bibliographic citation:

Darkenwald, Gordon G. and Thomas Valentine. "Factor Structure of Deterrents to Public Participation in Adult Education." Adult Education Quarterly, Vol. 35, No. 4, Summer 1985, pp. 177-193.

B. Objective/purpose/goal:

The purpose of this research was "to identify the factors that deter the general public from participating in organized adult education." Most prior studies of adult education participation, the authors noted, had focused on what impels people to participate, not on what deters them from doing so.

C. Type of activity:

Adult education, broadly defined as "any organized learning activity for adults, including courses, workshops, seminars, and training programs offered by schools, colleges, and other organizations or community groups."

D. Research method:

Mail survey.

E. Research subjects:

Non-institutionalized adults (age 16 or older) not enrolled full time in any school, college or other educational institution. The sampling goal was to obtain a reasonably large and heterogeneous sample of the general adult public. Questionnaires were mailed to a random sample of 2,000 households in Somerset County, New Jersey, described as one of wealthiest counties in the nation. A total of 215 individuals returned usable questionnaires, yielding a response rate of about 11 percent.

F. Structural/technical issues:

The survey instrument is referred to as a generic Deterrents to Participation Scale, inspired by an instrument developed for an earlier study (Scanlan and Darkenwald 1984). In describing the questionnaire development process, Darkenwald and Valentine write that the draft scale "was subjected to standard item analysis procedures, including a determination of internal consistency," and that the final version was highly reliable (alpha reliability coefficient = .86).

After the questionnaire defined adult education (see above), the following introductory language was used:

> However, adults sometimes find it hard to participate in these activities, even when they want to. Try to think of something--*anything at all*--that you wanted to learn in the past year or two, but never did. Then look at the reasons below and decide *how important each one was* in your decision not to participate in an educational activity.

A five-point scale was used, ranging from (1) "not important" to (5) "very important." The questionnaire listed 34 possible reasons for nonparticipation, including: *I was not confident of my learning ability*; *I didn't meet the requirements for the course*; *the available courses did not seem useful or practical*; *the courses available were of poor quality*; *I didn't have the time for the studying required*; *the course was offered at an inconvenient location*; *I'm not that interested in taking courses*; *I wasn't willing to give up my leisure time*; *education would not help me in my job*; *I couldn't afford the registration or course fees*; *I had trouble arranging child care*; and *personal health problem or handicap*.

G. Substantive issues/findings:

One type of analysis the authors did was to calculate the mean respondent rating for each item, which they describe as generally low. The three highest-rated reasons for nonparticipation--that is, the most important barriers--were *course scheduled at inconvenient time* (3.02), *course offered at inconvenient location* (3.00), and *didn't have time required for studying* (2.93). The three barriers rated least important were *personal health problem or handicap* (1.19); *friends did not encourage participation* (1.22); and *transportation problems* (1.37). Darkenwald and Valentine also conducted an exploratory factor analysis to determine how respondents' answers on individual items grouped together in ways suggestive of broader concepts. They found six main factors, which they gave the following names: Lack of Confidence, Lack of Course Relevance, Time Constraints, Low Personal Priority, Cost, and Personal Problems. Although they did not report overall means for each factor, Time Constraints was clearly the biggest factor; its five component items included the four ranked most important and number six as well. The final type of analysis performed for this study was a correlation analysis to explore the relationships between factor scores and five sociodemographic variables. The *confidence* factor was associated with higher age and lower income and educational attainment. The *cost* factor was also related to lower income and educational attainment, but it was also associated with lower age.

H. Conclusions/implications:

The authors observed that the six factors that emerged from their analysis generally paint a more complex, multidimensional picture of the deterrents construct than previous "intuitive conceptualization[s]," such as Cross's (1981) *situational,* *institutional*, and *dispositional* categories. They also argue that their instrument proved useful and conclude that similar studies are needed to measure deterrents to AE participation among various distinct sub-populations. In particular, Darkenwald and Valentine advocate the use of their instrument by practitioners to determine what are the biggest barriers faced by potential participants, recognizing that some may be beyond the control of program officials.

A. Bibliographic citation:

Drake, James Bob. "Factor Structure of Deterrents to Agriculture Teachers' Participation in Credit and Non-Credit Courses." Journal of the American Association of Teacher Educators in Agriculture, Vol. 29, No. 2, pp. 49-54, Summer 1988.

B. Objective/purpose/goal:

This research was aimed at (1) identifying factors that deter agricultural teachers from taking college courses and (2) exploring relationships between these factors and teachers' backgrounds.

C. Type of activity:

College credit courses offered through the Alabama university system and non-credit courses or workshops offered through the Agribusiness Education Section of the State Department of Education, generally in off-duty hours or in the summer; this kind of professional development or in-service training represents a type of work-related AE.

D. Research method:

A written questionnaire was distributed and completed at six regional teachers' meetings throughout the state, in April 1987.

E. Research subjects:

The population studied was "all secondary vocational agricultural teachers in Alabama who had been at their present school for two years or more and who had completed a four-year degree program at least two years ago" (p. 50). Responses were received from 292 teachers, representing 94 percent of the population.

F. Structural/technical issues:

After introducing the topic of the types and sources of classes the teachers might have the opportunity to take for professional development, the questionnaire had the following item: "Try to think of some course or workshop, any course or workshop at all, offered through the agribusiness section or the university system that you wanted to take, but never did. Then look at the reasons below and decide how important each was to your decision not to participate in this educational activity." A total of 34 potential barriers was presented, with respondents asked to rate each on a 5-point Likert scale ranging from *not important* (1) to *very important* (5). The list of barriers included: *course did not seem useful or practical*; *didn't think the course* *would meet my needs*; *was not willing to give up my leisure time*; *course offered at inconvenient location*; *course scheduled at inconvenient time*; *didn't meet course requirements*; *felt unprepared to take course*; *don't enjoy studying*; *didn't think I would be able to complete course*; *education would not help me in my job*; *family problems*; and *had trouble arranging for child care*. (The questionnaire was apparently the same one developed/used by Darkenwald and Valentine [1985], reviewed elsewhere in this bibliography). The author also determined that most of the factors were related to certain background or sociodemographic characteristics of the respondents. For example, *cost* was associated with educational level, age, teaching experience, and experience in current school; in contrast, *lack of encouragement* was associated only with age.

G. Substantive issues/findings:

The three barriers rated as most important were *course offered at inconvenient location* (mean rating 2.92), *course scheduled at inconvenient time* (2.55), and *course did not seem interesting* (2.20). The three barriers rated as least important were *felt I couldn't compete with younger students* (1.14), *wasn't confident of my learning abilities* (1.19), and *personal health problems* (1.20). When factor analysis was used, six underlying deterrent factors emerged, which the researcher referred to as *lack of course relevance*, *cost*, *lack of confidence*, *time constraints and personal priority*; *lack of encouragement*; and *personal problems*.

H. Conclusions/implications:

In concluding, Drake argued for more teacher input in course content. However, he also wrote, "It must be recognized that some deterrents to participation, such as cost, financial assistance for course, and lack of interest, may be beyond the control of program planners to intervene, while others, such as course relevance and course location, are not" (p. 53).

A. Bibliographic citation:

Ellsworth, Jill H. et al. "Typology of Factors that Deter Participation with an Educational Institution." Journal of Adult Education/MPAEA Journal, Vol. 20, No.1, pp. 15-27, Fall 1991.

B. Objective/purpose/goal:

The primary objective of this study was to explore perceptions of barriers to participation in higher education.

C. Type of activity:

Traditional postsecondary education.

D. Research method:

The research team developed a questionnaire which they termed the "Institutional Barriers Instrument" (IBI). The questionnaire was self-administered by respondents. The article does not make clear whether the instrument was mailed or distributed and completed in classes; however, the latter seems more likely, because no response rate is reported.

E. Research subjects:

Study participants were 1,237 students enrolled at a public four-year college in Texas. Although it is unclear how the respondents were selected, the authors describe them as generally representative of the school's student body.

F. Structural/technical issues:

All respondents were currently attending college, although about 22 percent had interrupted their college education at some point in the past and had since returned to continue their studies. Apparently, all respondents answered all sections of the questionnaire, including the barriers items. At least 52 potential barriers were presented, and respondents were asked to rate the importance of each on a five-point scale ranging from 1 = not important to 5 = very important. Examples of dispositional barriers listed in the instrument included: *friends/family don't like the idea of me going to school*; *too old to begin an academic program*; and *unsure about education/career goals*. Examples of situational barriers in the instrument included: *cost of child care*; *low grades in the past*; *home responsibilities*; *poor study habits*; *job responsibilities*; and *not enough discretionary time*. Examples of institutional barriers included: *lack of response to telephone inquiries*; *didn't meet requirements to become a major*; *availability of evening/weekend programs*; *class starting times*;

cost of learning materials; *class attendance policies*; and *hours required for degree*. Examples of physical barriers included: *doorways*; *streets*; *class location*; *access to computers*; *lighting*; and *parking*. Because so few details are provided in the article as to how the barriers questions were ordered or worded, it is unclear, for example, whether the students were rating the items on the role they had played in impeding or interrupting their studies in the past, the importance they had on access to or utilization of various academic resources, or the importance they might have on future decisions to remain enrolled. It is also unclear whether barriers were grouped according to type or all intermixed in one long list.

G. Substantive issues/findings:

The researchers calculated the mean importance rating for each potential barrier. Those considered most important (mean over 3.5) were: *friends/family don't like the idea of me going to school*; *too old to begin an academic program*; *cost of child care*; *no child care*; *lack of health/medical benefits*; and *lack of response to telephone inquiries*. Barriers rated least important were the physical barriers of *lighting*, *shuttle bus*, *library*, and *parking*. "To identify an underlying factor structure that deters one from participating in a educational program," the researchers did a principal components analysis. The four main factors that emerged were "Lack of Confidence," " Family Responsibilities," "Institutional Encouragement," and "Time."

H. Conclusions/implications:

"Knowing what kinds of barriers prevent students from taking or staying in educational pursuits will assist faculty, administrators, and others to increase the retention rate of students and to improve the quality of the educational experience of these students" (p. 17). However, the authors also note that each educational institution must understand the barriers faced by its own students before seeking ways to reduce or eliminate those perceived obstacles.

A. Bibliographic citation:

Fisher, James C. "What Turns Older Adults on to Education: Research Describing Participation in Educational Activities by Active Older Adults." Paper presented at the National Adult Education Conference (Philadelphia, PA, December 1983). December 1983. (ERIC #ED239091)

B. Objective/purpose/goal:

"The purpose of this study was to identify distinguishing characteristics of active older adults who participate in educational activities and to measure factors which motivated their participation" (p. 1).

C. Type of activity:

Educational/learning activities; no information is provided in the paper on how this was defined or measured.

D. Research method:

Written questionnaire, distributed at eight "gathering places for seniors in Milwaukee County, Wisconsin."

E. Research subjects:

Subjects were 786 "active older adults" (this term was undefined). The study compared responses of 211 education participants with those of a matched group (in terms of age, sex, marital status, and occupational status) of 211 nonparticipants. No information is provided on sampling or response rates.

F. Structural/technical issues:

In addition to collecting information on educational participation, the questionnaire also elicited information on background/demographic characteristics, anomie, and life satisfaction, as well as learning-related factors, such as propensity to engage in self-directed learning activities, ability to list places where educational activities were available to them, topics of interest, and obstacles that inhibit participation. The paper does not disclose how the information on barriers was elicited (for example, whether an open-ended or multiple-response question was used). Participants and nonparticipants alike apparently answered all the same survey questions.

G. Substantive issues/findings:

Compared with nonparticipants, participants (1) had a higher level of educational attainment, (2) were less anomic, (3) were more likely to engage in self-directed learning activities, (4) could list more places where they could engage in educational activities, and (5) could list more topics of interest. The third and fourth of these variables together explained a substantial proportion of the variance in the dichotomous dependent variable (participate--yes/no). Obstacles reported as inhibiting participation included *lack of transportation, classes held at night, uninteresting courses, high cost of courses, lack of time, the belief that older people don't need to learn, apathy, health problems/physical handicaps,* and *activities scheduled in unsafe/dangerous areas.* Fisher noted that "Participants were much more aware of these potentially inhibiting obstacles than were nonparticipants..." (p. 6).

H. Conclusions/implications:

The author points out that most of the factors associated with participation are "subject to direct or indirect manipulation by educators with older adults at the program level" (p. 7). He then goes on to suggest that education programs might do well to stress self-directed learning activities, and that older adults need to be made aware of educational opportunities available to them and how such programs could meet their own educational needs.

A. Bibliographic citation:

Hayes, Elisabeth R. "A Typology of Low-Literate Adults Based on Perceptions of Deterrents to Participation in Adult Basic Education." Adult Education Quarterly, Vol. 39, No. 1, pp. 1-10, Fall 1988.

B. Objective/purpose/goal:

"The purpose of this study was to develop a comprehensive way to view systematic differences in groups of low-literate adults through the creation of a typology based ion deterrents to participation in adult basic education" (p. 1).

C. Type of activity:

Adult basic education.

D. Research method:

This study was a secondary analysis of a data base generated from a previous study by the author and a colleague (Hayes and Darkenwald, 1988). The data came from a written questionnaire, apparently administered during ABE class sessions, will all directions and questions read aloud by a survey administrator to ensure that all respondents fully understood the instrument.

E. Research subjects:

The respondents to the survey were 160 students in seven urban ABE programs. All were reading at or below the sixth grade level; the majority were female, black, and unemployed.

F. Structural/technical issues:

The questionnaire consisted of 32 items, each representing a possible deterrent to participation, identified through interviews with ABE teachers and low-literate ABE students. Respondents were asked to rate the importance of each item as a barrier to participation before they began taking ABE courses. The exact wording of the question was not given in the article, nor was the scale on which respondents rated potential barriers. The list of possible barriers included: *thought it would take too long to finish school*; *family problems*; *thought starting classes would be difficult, with lots of questions and forms to fill out*; *didn't know anyone taking classes*; *didn't have time to go to school*; *felt returning to school wouldn't help me*; *didn't like doing school work*; *tried to start but classes were full*; *thought "book learning" wasn't important*; *didn't want to take classes in a school building*; and *didn't like other students who attend.*

G. Substantive issues/findings:

The author calculated the mean importance score of each potential barrier. To give a general sense of which past deterrents were seen as more important than others, the listing of example deterrents presented above reflects a decreasing order of importance. Of the items included in the factor analysis (see below), those rated as most important to current ABE participants before they enrolled was *thought it would take to long to finish school* (mean 1.80), followed by family problems and afraid I wasn't smart enough to do the work (both 1.78); the one rated least important was *didn't like other students who attend* (1.08).

Hayes also conducted a factor analysis, which indicated that most of the barriers items fell naturally into five major factors or underlying constructs, which she termed: *social disapproval*; *low self-confidence*; *negative attitude to classes*; *low personal priority*; and *situational barriers*. Finally, the author used cluster analysis to develop a typology of adults in ABE courses. This analysis yielded six different groups based on information on respondents' backgrounds and their ratings of the barriers items. It showed, for example, that the largest group consisted mainly of "employed individuals who have relatively positive attitudes toward themselves as learners and towards education, but who [based on their relatively high mean score on the social disapproval factor] fear a negative response to their participation from family, friends, and co-workers" (p. 7).

H. Conclusions/implications:

In addressing implications for practice, Hayes concluded that this study "indicates that low-literate adults should not be treated as a homogeneous group in respect to their perception of barriers to participation; accordingly, an undifferentiated approach to recruitment and program planning in ABE appears to be inappropriate" (p. 8). She also suggested that "the most effective way to address barriers may be to tailor entire programs to the needs of specific groups" (p. 9). In addressing implications for research, she argued for more studies replicating and expanding on this one.

A. Bibliographic citation:

Hayes, Elisabeth. "Hispanic Adults and ESL Programs: Barriers to Participation." TESOL Quarterly, Vol. 23, No. 1, pp. 47-63, March 1989.

B. Objective/purpose/goal:

This study's objectives were to (1) assess the importance of various deterrents to Hispanic adults' participation in ESL, (2) determine the factor structure of barriers facing this population, and (3) develop a typology of Hispanic adults based on their perceived barriers to participation in ESL.

C. Type of activity:

English-as-a-Second-Language classes.

D. Research method:

The study utilized a written questionnaire, administered during ESL class sessions in small groups or one-on-one; however, due to the literacy problems of some respondents, the questionnaire was read aloud to respondents in Spanish by ESL teachers. The instrument took about 10 minutes to complete.

E. Research subjects:

The research subjects were 207 Hispanic adults who were actively attending one of five large, urban ESL programs in New Jersey at the time of the study, in spring 1986. ESL teachers and counselors from these programs identified all Hispanic enrollees and asked them to participate in the study.

F. Structural/technical issues:

The questionnaire consisted of 32 items, each representing a possible deterrent to participation, identified through a review of the literature and interviews with ABE teachers and low-literate ABE students. Respondents were asked to indicate how important each item was as a deterrent to their participation prior to their enrollment in ESL classes, using a three-point scale, with 3 = *most important*. The exact wording of the question was not given. The list of possible barriers included: *didn't have time to go to school*; *it was more important to get a job than to go to school*; *couldn't pay for child care or transportation*; *didn't have any transportation*; *thought it would be like regular school*; *classes were held at times I couldn't go*; *family problems*; *didn't know where I could take classes*; *didn't think I needed to read better*; *tried to start but classes were full*; *didn't want to answer questions in class*; *classes were in a bad neighborhood*; *heard classes were not very good*; *thought I wouldn't* *like being in classes with younger students*; *felt returning to school wouldn't help me*; *thought "book learning" wasn't important*; and *didn't like other students who attend.* (This questionnaire was a Spanish-language version of one used by the author in previous studies; see, for example, Hayes 1988, reviewed elsewhere in this bibliography.)

G. Substantive issues/findings:

Hayes first calculated the mean importance score of each potential barrier. To give some sense of which barriers were seen as more important than others, the listing of example barriers presented above reflects a decreasing order of importance. The barrier rated as most important to current ESL participants before they enrolled was *didn't have time to go to school* (mean 1.87); the barrier rated least important was *didn't like other students who attend* (1.12). In general, Hayes wrote, "the most highly ranked barriers relate to lack of time, the low priority of education in relation to work, costs, and lack of transportation" (p. 54).

She next conducted a factor analysis, which indicated that 26 of the barriers items fell naturally into four major factors or underlying constructs (with three items loading on two factors), which she termed: *self/school incongruence* (factor mean 1.24); *low self-confidence* (1.61); *lack of access to classes* (1.43); and *situational constraints* (1.75). As the factor means indicate, situational constraints (such as time and costs) were considered the most important past barriers. Finally, the author used cluster analysis to develop a typology of Hispanic adults in ESL courses. This analysis yielded five different groups based on information on respondents' backgrounds and their ratings of the barriers items. It showed, for example, that mothers employed outside the home perceived situational constraints as more important than did mothers who were unemployed.

H. Conclusions/implications:

Hayes wrote that "Since the limited resources of most educational programs may restrict efforts to overcome all barriers, [this study] could provide information about the most appropriate deterrents for educators to address: those that had the potential to be modified, as evidenced by the ultimate participation of respondents, yet were identified as barriers important enough to prevent previous participation" (p. 52). She also pointed out the importance of recognizing that different subgroups of Hispanic adults face different barriers to enrolling in ESL courses, and that different strategies aimed at reducing barriers will be needed for such different groups.

A. Bibliographic citation:

Henry, Gary T. and Kathleen C. Basile. "Understanding the Decision to Participate in Formal Adult Education." Adult Education Quarterly, Vol. 44, No. 2, pp. 64-82, Winter 1994.

B. Objective/purpose/goal:

The purpose of this study was to improve understanding of the decision to participate in formal adult education courses, with a focus on comparing actual participants to interested nonparticipants.

C. Type of activity:

Continuing adult education offered through a "major urban university." The program studied offered about 250 non-degree, non-credit courses each academic quarter, ranging from professional and technical training to personal enrichment, with annual enrollments totaling about 4,000 to 5,000.

D. Research method:

Current continuing education students completed a self-administered, written questionnaire in class; for non-students a mail survey was used.

E. Research subjects:

Two groups of subjects were studied: participants and nonparticipants in adult continuing education courses at an urban university. To identify student subjects, 17 classes were randomly selected out of 91 being offered at the time (in 1992); they ranged from Beginning Golf to classes on the use of word processing and spreadsheet software programs. Apparently, all students in the selected classes, a total of 138 adults, completed the questionnaires. To identify interested nonparticipants, the researchers obtained a list of individuals who had previously called the program to inquire about one or more continuing education courses, but who had not enrolled. Questionnaires were mailed to 749 of these individuals; the number of usable responses was 180; the response rate, adjusted for questionnaires returned due to bad mailing address information, was about 30 percent. According to information collected through the two surveys, to a number of background characteristics--age, sex, race, education, employment status, occupation, income, marital status, children, residence--the two groups were quite similar.

F. Structural/technical issues:

Little information about the structure or content of the questionnaires is provided in the article. In terms of barriers items, it explains that "[a] Likert scale was used to measure the extent of deterrents to participation" and that "[o]ther items on the survey asked the importance of some potential deterrents such as the availability of free parking, as well as location and related course factors" (p. 75). The article also mentions that the questionnaires collected data on possible reasons to enroll, sources of information on the program, the importance of course attributes, and institutional perception.

G. Substantive issues/findings:

The analysis used logistical regression to distinguish between participants and nonparticipants; that is, to highlight the variables that indicate the greatest differences between the two groups in terms of the odds of participation. Six variables emerged as being the most significantly different between the groups, from highest to lowest significance: *meet people and get out of the house*, *general course interest*, *paying own fees*, *brochure sent to work*, *recent major life change*, and *institutional deterrents*; all except *brochure sent to work* were negative factors (which increase the odds of nonparticipation). The institutional deterrents variable was a dichotomous measure that captured "the cumulative effect of a list of factors about the institution, such as ... the availability of parking." (p. 79). The implication of the finding, the authors wrote, "is that nonparticipants see the related costs and nuisance factors associated with participation as more of a burden than those who are participating. ...The differences again lie at the margin. Those who are marginally interested may allow potential inconveniences to lead them to not enroll" (p. 79).

H. Conclusions/implications:

Henry and Basile conclude that the decision to participate in formal adult education is a complex one, influenced by both motivations and deterrents. They also argue that to make participation in courses, especially those that may not be perceived as work-related, "more 'rational,' the perceived benefits may have to rise and the perceived costs lower." "Some practical suggestions" for program administrators "are to publicize conveniences such as the availability of parking in areas near the course locations (lowering perceived costs), and to emphasize social opportunities outside class (raising perceived benefits) in mailed brochures and catalogs...)" (p. 81).

A. Bibliographic citation:

Norland, Emmalou Van Tilburg. "Why Adults Participate: Convenience, Reputation, and Self- Improvement Count." Journal of Extension, Vol. 30, pp. 12-13, Fall 1992.

B. Objective/purpose/goal:

This article briefly summarizes an earlier study by the same author, conducted for the Ohio State University extension program. One of the four research questions was: What encourages or deters participation and persistence in Extension education programs?

C. Type of activity:

Extension education offered through a major university.

D. Research method:

Mail survey.

E. Research subjects:

Individuals who had been involved in a variety of Extension programs. A cluster sample of 599 such individuals was drawn, of which 276 responded to the survey.

F. Structural/technical issues:

No details whatsoever are given on the data collection instrument.

G. Substantive issues/findings:

The author reports that five factors emerged from a list of items related to participation: *low anticipated difficulties with arrangements, high commitment to the Extension organization, anticipated positive social involvement, anticipated high quality of the information*, and *high internal motivation to learn*. Although the key research question of interest specifically mentioned "barriers to participation," no mention of them is made in the report. One possible interpretation is that barriers are the opposite of the five factors listed above; that is, high anticipated difficulties with arrangements, low internal motivation to learn, etc.

H. Conclusions/implications:

The author concludes that her findings have "implications for planning, marketing, and delivering Extension programs" (p. 13). For example, care should be taken to make courses convenient for potential participants.

A. Bibliographic citation:

Price, William F. and Lesley B. Lyon. "Education Orientations of the aged: An Attitudinal Inquiry." Educational Gerontology, Vol. 8(5) pp. 473-484, Sept.-Oct. 1982.

B. Objective/purpose/goal:

"The intent of the study was to measure specific educational attitudes and to examine their relationships to one another as factors that influence the decision to participate in educational activities. Furthermore, this study wished to contribute to what is known about barriers to educational involvement by the aged" (p. 474).

C. Type of activity:

The study apparently did not focus on any particular type of educational classes or programs; rather, the survey instrument focused on educational activities very broadly defined.

D. Research method:

Mail survey.

E. Research subjects:

Data for this study came from 172 respondents to a mail survey; neither the size of the full sample nor the response rate are reported. The sample was drawn randomly from the mailing lists of 10 senior citizen centers in Franklin County, New York. The respondents were age 55 or older, with 10 percent age 81 or older.

F. Structural/technical issues:

The first part of the survey was designed to measure respondents' educational orientations, which the researchers conceived of as having five dimensions: *perceived ability to learn (competent vs. hesitant)*; *interest in education (high vs. low)*; *perceived educational needs (yes vs. no)*; *desired availability of educational opportunities (interested vs. not interested)*; and *use of free time (educationally vs. non-educationally oriented)*. The instrument had three items pertaining to each dimension. Following are examples of one item from each category (in the same order as above): "At my age, learning doesn't come very easily;" "I enjoy seeing educational classes offered by Senior Centers and/or Senior Clubs;" "Few of my personal needs can be met by taking educational classes;" "Colleges need to offer more lifelong learning activities for older adults;" and "In my free time, I like to take advantage of classes and programs offered by my church, the Senior Center, or other organizations." Respondents were simply asked to indicate whether they agreed or disagreed with each of the 15 statements.

The second part of the questionnaire included one question on barriers to participation: "What factors would keep you from attending educational/cultural events?" A list of eight answers was provided: *weather conditions, location of performance or event, health, someone to go with, transportation, not knowing about the activity in advance, cost*, and *few opportunities in my area*. The respondents were instructed to check all that applied. Finally, this barriers question was addressed to all respondents, regardless of their answers on questions about perceived educational needs, interests, etc.

G. Substantive issues/findings:

The researchers used cross tabulations with chi square statistics to measure relationships between the various dimensions of educational orientation. They found five statistically significant relationships: *availability of educational opportunities* was related to *interest in education* and *educational needs*; *use of free time* was related to *interest in education, educational needs*, and *availability of educational opportunities*. Somewhat surprisingly, however, Price and Lyon did report on any analyses of relationships between educational orientation and answers to the barriers items. The order in which the eight potential barriers are listed above reflects the number of respondents who indicated each one might prevent participation, from highest to lowest (39 percent checked *weather*, 20 percent checked few opportunities).

H. Conclusions/implications:

The authors concluded that potential barriers to participation appear to be a greater problem than older persons' attitudes about themselves as learners. They also went on to state that, "In reality, a multiplicity of factors, rather than just an isolated single reason, must be looked at for why there is not greater participation in educational activities" (p. 482).

A. Bibliographic citation:

Rose, Clare and Cheryl C. Graesser. *Adult Participation in Lifelong Learning Activities in California.* Report sponsored by the California State Postsecondary Education Commission, Sacramento, CA. October 1981. (ERIC #ED239030)

B. Objective/purpose/goal:

This study was a detailed examination of various aspects of adult participation in a variety of learning activities. One of its six main objectives was to determine the percentage of adults participating in lifelong learning activities in California. The study also addressed barriers to participation.

C. Type of activity:

Lifelong learning and training activities.

D. Research method:

Telephone survey of households.

E. Research subjects:

The study involved telephone interviews with adults from 354 households, intended to be representative of all adults in California. The sampling methodology involved first selecting nine cities representing different regions of the state different degrees of urbanicity. Then, following certain procedures, specific pages of a city's telephone directory were selected and target households were chosen randomly from the listings on those pages.

F. Structural/technical issues:

The concept of lifelong learning and training activities was defined in the first question of the interview as follows: "During the past year, have you or any other adult in your household taken any lessons, classes, workshops, seminars, courses, or apprenticeship training related to your work or for pleasure?" (Proxy respondents were allowed to answer on behalf of adult participants.) Respondents who answered "yes" were first asked a series of questions about each class they took in the past year; they were then asked about their education-related future plans and preferences. Respondents who answered "no" skipped immediately to the plans and preferences questions. Included in the plans and preferences section was a single, open-ended question about barriers to participation: "Are there any barriers that prevent you from taking classes?" An interviewer prompt read "(Examples are family responsibilities, lack of transportation, cost, lack of child care....)" Respondents were allowed to name multiple barriers. And as explained above, both participants and nonparticipants were asked the barriers questions.

G. Substantive issues/findings:

The study found that about 42 percent of those interviewed had participated in at least one type of AE activity in the past year. This participation rate was presumably measured as the number of respondents who answered "yes" to the first question, over the total number of respondents. (At least no information is presented which suggests any other calculation was made.)

While the study did not seek to "explain" participation in AE or to explore factors that encourage or promote participation, the authors did report on a few differences between participants and nonparticipants. Specifically, they found that, compared with the average nonparticipant, the average participant in adult learning activities was more likely to be under age 55, live in a suburban city, have a higher levels of educational attainment and income, and be employed full-time in a professional job.

As for factors inhibiting participation, the primary finding was that "Most participants and nonparticipants perceived no real barriers to participation" (p. 21). Moreover, the eight most frequently cited barriers for both groups were the same, with only minor differences in order. These were (number of participants/number of nonparticipants): *lack of time* (29/21); *cost* (12/20); *family responsibilities* (11/16) *lack of child care* (7/9); *lack of transportation* (6/9); *health/age considerations* (4/20); *full work schedule* (2/15); and *lack of interes*t (2/8).

H. Conclusions/implications:

The authors briefly discuss some implications of the findings, focusing especially on postsecondary institutions. For example, they conclude that different types of adults have different educational needs and interests. They suggest that institutions consider training faculty "to enable them to understand and respond to the needs of older students" and "more actively assessing employers' needs in order to provide appropriate courses, and thus enhance their enrollments of working adults" (p. 28). One general "key to increasing adult participation in lifelong learning, Rose and Graesser suggest, "may simply be to get them to the first course, and let the natural enthusiasm and pleasure of participation take over" (p. 27). However, the authors made no observations about the meaning or importance of their findings on barriers to participation.

A. Bibliographic citation:

Sherman, Janet M. "Change Theory and Increasing Participation in Adult Basic Education." Journal of Adult Education, Vol. 18, No. 2, pp. 19-30, Spring 1990. (ERIC #EJ414505)

B. Objective/purpose/goal:

The goal of this article was to present information on barriers to participation in ABE which would inform best practices in marketing and delivering ABE programs.

C. Type of activity:

Adult basic education programs; additional details on the definition of such programs are not provided in the article.

D. Research method:

The article reports the results of four surveys conducted as part of a statewide study concerning ABE in Wyoming. Two of these surveys were conducted with potential participants; one was a telephone survey, the other apparently used a written, self-administered questionnaire.

E. Research subjects:

The telephone survey targeted adults who were not enrolled in adult education classes; the article does not describe how potential respondents were identified or sampled; 196 people responded. The other survey targeted "adults who were registered with an agency but not taking classes;" no details are provided on how potential respondents were identified or sampled; 73 people responded.

F. Structural/technical issues:

The telephone survey included a single, open-ended question on barriers: "Why are you not taking classes now?" No information is provided on what questions preceded this one, but it was asked of all respondents. The second survey presented a single, multiple-choice question, "What reasons keep you from attending a class you like?", with five possible answers to choose from: *wrong times, not sure I could succeed, child care problems, transportation*, and *other*. Again, no information is provided on what questions preceded this one, but it was asked of all respondents.

G. Substantive issues/findings:

Following are the barriers identified in the open-ended question in the telephone survey, in order of how frequently they were mentioned: *no time, don't need, expensive, child care problems, too old, wrong times, transportation, don't know about classes, fear of failure*, and *bad location of class*. Following are the barriers identified in response to the other survey, in order of how frequently they were mentioned: *wrong times*; *other, don't need*; *not sure I could attend*; *transportation*; *child care problems, other, too old*; *other, various responses*.

Interestingly, the barriers cited by potential participants were different from those cited by 139 officials from education and social agencies who responded to a related survey. Asked for their perceptions of seven potential reasons for nonparticipation in adult education programs, the program representatives ranked them in the following order of decreasing importance: *fear of failure, unaware of program, child care problems, transportation, cost of attending, wrong times*, and *location*.

H. Conclusions/implications:

The author concluded that "barriers listed on the surveys as deterrents to participation should be removed..." (p. 28). She argues that child care should always be made available, that local community organizations should help defer the costs of the GED, that class schedules should be flexible to accommodate working students, and that transportation problems could be solved with vouchers. She also suggested that efforts need to be made to improve potential participants' self-images and to address more dispositional barriers.

A. Bibliographic citation:

Sundet, Paul A. and Michael W. Galbraith. "Adult Education as a Response to the Rural Crisis: Factors Governing Utility and Participation." Journal of Research in Rural Education, Vol. 7 No. 2, pp. 41-49, Winter 1991.

B. Objective/purpose/goal:

To investigate deterrents to participation in adult education in a rural area.

C. Type of activity:

Adult education programs; no definition is provided.

D. Research method:

A mail survey was conducted.

E. Research subjects:

A sample of 104 respondents were drawn from lists of attendees at a series of workshops in the seven county area of northwest Missouri, an area that is over 75 percent rural and where nearly 100 percent of the inhabitants are white. The workshops were sponsored by a university extension service, a community mental health center, and an area vocational/technical school. The median age of the respondents was 40. Because workshop attendees are a self-selected group--indeed, some were invited to the workshops because of their positions in community organizations--the authors note explicitly that the study subjects "are by no means a random sample." Seventy-four people returned usable questionnaires, a response rate of 71 percent.

F. Structural/technical issues:

The questionnaire is described as having 118 items, with sections on social services, community processes, and adult education. Respondents were asked to evaluate four dimensions of adult education programs: availability, educational policy, curriculum, and barriers to participation. For the 19 potential barriers presented, respondents were asked to rate their importance on a five-point scale, ranging from 1 for *not important* to 5 for *very important*. The potential barriers included *cost, job responsibilities, home responsibilities, time required to complete, no time available, course schedule, too old for school, can't go full time, courses not offered, don't enjoy studying, don't know what to study, no energy, no child care, information not available, no transportation, too much red tape, past low grades, attendance requirements*, and *family/friends object*.

G. Substantive issues/findings:

The order in which the barriers are listed above is the rank order based on the mean rating given by respondents. Thus, *cost* was seen as the most important barrier (mean score 4.17) and *family/friends object* was considered the least important barrier (mean score 1.05). For purposes of analysis the authors placed the individual barriers into three groups, using a previously established typology (Cross 1981): (1) situational barriers, "those that arise from the personal living conditions of people," such as cost, home responsibilities, and lack of transportation; (2) institutional barriers, "those which are products of the structure, policy and/or practice of the educational systems," such as course schedule and attendance requirements; and (3) dispositional, "personal/familial beliefs and values about self and education," such as too old for school and don't enjoy studying (p. 44). Overall, Sundet and Galbraith found that situational barriers were considered most important, followed by institutional and dispositional barriers. The authors also found that sociodemographic variables, such as sex, age, education, and occupation, had different bearings on respondents' ratings of various barriers.

H. Conclusions/implications:

The authors argue that adult educators need to better understand the rural subculture to effectively combat deterrents and increase participation. However, they caution against making overly broad generalizations about the barriers perceived by rural adults, because of the subgroup differences that exist.

A. Bibliographic citation:

Valentine, Thomas, and Gordon G. Darkenwald. "Deterrents to Participation in Adult Education: Profiles of Potential Learners." Adult Education Quarterly, Vol. 41, No. 1, pp. 29-42, Fall 1990.

B. Objective/purpose/goal:

The purpose of this study was "to explicate the deterrence construct more fully by identifying and describing 'types' of adults, as defined by their perceived deterrents to participation in organized adult education" (p. 31). To achieve this purpose, the authors did a secondary analysis of a data base created through a previous study they had conducted; see Darkenwald and Valentine (1985), reviewed elsewhere in this bibliography.

C. Type of activity:

Adult education, broadly defined as "any organized learning activity for adults, including courses, workshops, seminars, and training programs offered by schools, colleges, and other organizations or community groups."

D. Research method:

Mail survey.

E. Research subjects:

Non-institutionalized adults (age 16 or older) not enrolled full time in any school, college or other educational institution. The sampling goal was to obtain a "reasonably large and heterogeneous sample of the general adult public. Questionnaires were mailed to a random sample 2,000 households in Somerset County, New Jersey, described as one of wealthiest counties in the nation. A total of 215 individuals returned usable questionnaires, yielding a response rate of about 11 percent. For this study, however, five cases were excluded because they proved to be outliers that did not group with any other respondents.

F. Structural/technical issues:

The survey instrument is referred to as a generic Deterrents to Participation Scale (DPS-G). After the questionnaire defined adult education (see above), the following introductory language was used:

> However, adults sometimes find it hard to participate in these activities, even when they want to. Try to think of something--*anything at all*--that you wanted

> to learn in the past year or two, but never did. Then look at the reasons below and decide *how important each one was* in your decision not to participate in an educational activity.

A five-point scale was used, ranging from "not important" (1) to "very important" (5). The questionnaire listed 34 possible reasons for nonparticipation, including: *I was not confident of my learning ability*; *I didn't meet the requirements for the course*; *the available courses did not seem useful or practical*; *the courses available were of poor quality*; *I didn't have the time for the studying required*; *the course was offered at an inconvenient location*; *I'm not that interested in taking courses*; *I wasn't willing to give up my leisure time*; *education would not help me in my job*; *I couldn't afford the registration or course fee*; *I had trouble arranging child care*; and *personal health problem or handicap*.

G. Substantive issues/findings:

This study employed the same six barriers factors that emerged from the earlier study: *lack of confidence*, *lack of course relevance*, *time constraints*, *low personal priority*, *cost*, and *personal problems*. Information on those factors was combined with information on respondents' background characteristics through cluster analysis. This analysis yielded five distinct groups, or types, of respondents: (1) *people deterred by personal problems*, which consisted mainly of traditional homemakers (women) with demanding life situations; (2) *people deterred by a lack of confidence*, for which the dominant profile was mature adults whose personal resources and life circumstances would enable them to participate (if lack of confidence were not an issue); (3) *people deterred by educational costs*, which was disproportionately female and younger than the sample as a whole and had modest incomes; (4) *people not interested in organized education*, for which the dominant profile was well-educated, affluent, employed, and male; and (5) *people not interested in available courses*, for which the dominant profile was quite similar to that of group 4, but who had different attitudes and values concerning adult education.

H. Conclusions/implications:

Valentine and Darkenwald observed that, in general, three of the five empirically derived types of potential learners (types 1, 3, and 5) were essentially "externally deterred," in that the major barriers to their participation are external to themselves "and, it would seem, subject to mitigation by certain program planning practices," such as lower fees, provision of child care, or different course offerings (pp. 37-38). In contrast, groups 2 and 4 were said to be "internally deterred," in that the major barriers to their participation are inside themselves "and are essentially psychological in nature." They went on to add, "The extent to which adult educators should address themselves to manipulating the psychology of learners (e.g., by attempting to overcome indifference to learning by means of persuasive promotion) is an ethical issue that cannot be ignored in the quest for increased enrollments" (p. 38).

The authors concluded that their typology "has substantial theoretical value, in that it further contributes to the mapping of forces that inhibit participation" (p. 38). They called for more research in this area, but also argued that practitioners can learn much even from this one study; specifically, that potential learners are a diverse group and that to increase enrollments, planners and administrators "need to learn more about their learners and the things that make participation difficult or impossible" (p. 39).

A. Bibliographic citation:

Watt, Connie F. and Marvin W. Boss. "Barriers to Participation in Adult Upgrading Programs: An Exploratory Study." Adult Literacy and Basic Education, Vol. 11, No. 3, pp. 113-122, 1987.

B. Objective/purpose/goal:

The purpose of this research was to explore participation barriers perceived by adults who want to complete the requirements for a high school diploma or upgrade their basic business or academic skills.

C. Type of activity:

Three types of adult education programs offered through an alternative school (for students over age 16 who left traditional schools): courses for completing a secondary school diploma, business courses, and adult basic education.

D. Research method:

Written questionnaire, distributed at the program site.

E. Research subjects:

Study participants were adult students (only those age 19 or older) enrolled in an alternative school in a city in eastern Ontario, Canada; 145 questionnaires were distributed, 140 were completed and returned.

F. Structural/technical issues:

The questionnaire listed 15 potential barriers to further education. The list included attitudinal barriers--*not sure I can handle courses successfully*, *worried about lack of earlier education*, *uncertain about value of courses*, *not interested in available courses*, *not interested in learning at all*, and *don't enjoy being part of a group*; situational barriers--*too busy*, *too expensive*, *too tired*, *no child care*, and *other home responsibilities*; an informational barrier--*don't know what courses are available*; and institutional barriers--*don't want to follow schedules and write exams*, *courses located too far away*, and *courses offered at inconvenient times*. The authors explained, "respondents were asked to check any [barriers] which had been problems for them in the past when they tried to go to school and to check from an identical list those problems which continued to exist at the present time" (p. 116). Respondents were also invited to list any additional barriers they faced in the past or presently.

G. Substantive issues/findings:

The first three attitudinal barriers listed above were checked far more often than others as being a current barrier to learning. It is unclear, in part because the exact question wording is not presented, whether in indicating past barriers students were referring to experiences with adult education courses or secondary school. (If it was the latter, their responses are irrelevant to this review.) Nonetheless, in general, attitudinal, situational, and informational barriers were reported more often than institutional barriers as being a problem in the past. As might be expected, given that the respondents were current AE students, past barriers were reported more often than current barriers. As for additional barriers suggested by respondents, the most common one mentioned for both the past and present was *lack of support from families or friends*.

H. Conclusions/implications:

The authors conclude this article with a discussion of ways in which AE providers can address all four of the types of barriers studied. For example, they mention counseling and tutoring for helping students overcome self-confidence problems; child care facilities for students with children; and flexible course scheduling for students who work. They argue that "educational institutions, government agencies, families, and society as a whole must provide means for mature students to overcome barriers to participation. It is in the best interest of society to have its members fulfill their potential" (p. 121).

EMPIRICAL STUDIES OF PARTICIPATION/NONPARTICIPATION IN ACTIVITIES OTHER THAN ADULT EDUCATION

A. Bibliographic citation:

Alexandris, Konstantinos and Bob Carroll. "An Analysis of Leisure Constraints Based on Different Recreational Sport Participation Levels: Results from a Study in Greece." Leisure Sciences, Vol. 19, No. 1 (Jan.-Mar. 1997), pp. 1-15.

B. Objective/purpose/goal:

This study's threefold objective was to investigate (1) constraints on participation in recreational sports, (2) the relationship between constraint factors and participation/nonparticipation, and (3) the relationship between constraint factors and extent of participation.

C. Type of activity:

Recreational sports activities; the research subjects were provided with a list of 22 examples, including: basketball, football, volleyball, aerobics, weight training, dancing, water skiing, snow skiing, swimming, tennis, and walking for recreation and exercise purposes.

D. Research method:

Self-administered written questionnaire; the instrument was distributed in person, door-to-door, and either completed immediately or collected the following day.

E. Research subjects:

Research subjects were adult residents (age 18 and older) of the city of Larissa, Greece. The researchers divided the city into five zones, randomly selected streets within each zone, and contacted every fifth household on selected streets for a total of 60 potential respondents in each zone and 300 citywide. Of these, 153 (51 percent) completed and returned the questionnaire.

F. Structural/technical issues:

Respondents were first asked to report their overall level of participation in recreational sports during the past year in one of four categories: *no participation, less than once a month, at least once a month*, and *at least once a week*. The second section of the questionnaire listed "32 statements describing limiting or prohibiting factors for their recreational sport participation or reasons for nonparticipation (nonparticipants), using a four-point Likert scale ranking, from 4 (*very important*) to 1 (*not important*)" (p. 5). The list of potential constraints was developed through informal interviews with Greeks and a review of prior research. Examples included: *feel too tired for recreation*; *health-related problems*; *not confident*; *don't know where to participate*; *facilities crowded*; *do not like activities offered*; *timetable does not fit with mine*; *transportation takes too much time*; *no opportunity near my home*; *no car*; *cannot afford*; *not enjoyed in past*; *not want to interrupt routine*; *not interested*; *nobody to participate with*; *time--family*; *time--work/studies*; and *time--social commitments*. All respondents were asked this set of questions; however, for the purpose of analysis, nonparticipants were compared with all participants (regardless of level) and those participating to differing extents were compared with one another (excluding nonparticipants). A final section collected basic demographic information.

G. Conclusions/implications:

Having found that *intrapersonal constraints*--things such as self-perceptions of health, fitness, competence, and past experiences, as well as awareness and knowledge--are particularly important, Alexandris and Carroll argue that if program officials want to target nonparticipants, they should first try to address intrapersonal constraints. However, the authors acknowledge that such constraints are not easily addressed. They suggest using the help of participants and developing appropriate introductory programs.

A. Bibliographic citation:

Champion, Victoria L., et al. "Factors Influencing Effect of Mammography Screening in a University Workplace." Cancer Detection and Prevention, Vol. 21, No. 3, pp. 231-241, 1997.

B. Objective/purpose/goal:

A key research question of this study was "What factors best predict decisions to participate in breast cancer work-site screening among eligible women...?" The study was intended to test a theoretical model which holds that participation in breast cancer screening is influenced by both "enabling variables," such as economics, health insurance, and income, and "predisposing variables," which include knowledge, health motivation, susceptibility, and perceived benefits and barriers.

C. Type of activity:

A free breast cancer screening program.

D. Research method:

Mail survey.

E. Research subjects:

Questionnaires were mailed to 2,137 women age 40 and older who were employees of a university that had recently sponsored a free work-site breast cancer screening program; of these, 1,093 responded (about 50 percent). Approximately 35 percent of the respondents were eligible for the program, but did not participate.

F. Structural/technical issues:

The questionnaire defined barriers as negative aspects associated with mammography. Eight barriers were presented, relating to *inconvenience*, *time*, *worry*, *embarrassment*, *pain*, *costs*, *worry about radiation*, and *forgetting to schedule*. Respondents were asked to rate each barrier on a five-point scale ranging from "strongly disagree" to "strongly agree." All respondents were instructed to answer the barriers questions, whether or not they had participated in the screening program.

G. Conclusions/implications:

The researchers conclude that more research should be done to identify additional factors that influence whether women will or will not participate in free work-site mammography programs. Although such programs eliminate cost barriers and presumably reduce barriers relating to time and convenience by setting up where women work, a substantial portion of eligible women still did not participate.

A. Bibliographic citation:

Dowdell, Graham. *Communication Barriers to Union Participation. Local 459 Amalgamated Clothing and Textile Workers Union.* Developed for the Workplace Education Manitoba Steering Committee. Manitoba [Canada] Dept. of Education and Training, Literacy and Continuing Education Branch. October 1994. (ERIC #ED380695)

B. Objective/purpose/goal:

The research project had several objectives related to the literacy levels of union members, one of which was "To determine the extent to which literacy requirements are a barrier to members seeking positions within the union and to full participation in those positions" (p. 2).

C. Type of activity:

A variety of union-related activities: voting on the collective agreement, reading union notices and information, discussing union or workplace issues with co-workers, attending social activities put on by the union, filing a grievance or complaint with the union, voting in elections of union officers, running for election as a union officer, and attending union meetings.

D. Research method:

A written questionnaire, distributed at the workplace, completed there or at home, and returned to the shop steward.

E. Research subjects:

Over 300 questionnaires were distributed to members of the Amalgamated Clothing and Textile Workers Union (ACTWU) Local 459, which had approximately 1,500 members at that time, 90 percent of whom were women sewing machine operators. The membership was described as ethnically and linguistically diverse, representing at least 24 language groups. To accommodate this diversity, the questionnaire was translated into Chinese, Vietnamese, Laotian, Punjabi, Portuguese, and Italian. Each ACTWU plant received a set of questionnaires based on the number of members and the languages they spoke. The overall response rate was roughly 50 percent.

F. Structural/technical issues:

The questionnaire was divided into sections that addressed participation in a variety of workplace and union related activities. The basic format was to have one or two questions about involvement, followed by a question on potential barriers. Following are two examples: (1a) "Did you vote in the ratification of your recent contract?", (1b) "If you did *not* vote, why not?"; (2a) How often do you discuss union or workplace issues with co-workers?", (2b) Why would you *not* discuss union or workplace issues with co-workers?" If the participation question was a yes/no item (such as in example 1, above), then only respondents who answered "no" were asked the barriers question; if the participation question was an extent item (such as in example 2, above), then all respondents had the opportunity to answer the barriers question. Each barriers question had a unique set of potential answer choices, tailored to the subject at hand, with the number of answers ranging from 5 to 14; however, some of the more common possible reasons for nonparticipation included: *no interest*, *too busy*, *couldn't read the information*; *didn't understand what the vote was about*; *didn't know how/when/where to vote*; *it won't change anything*; *too tired*; *too busy looking after my family*; *too busy with other things*; *don't have transportation*; *don't know enough about the union*; *trouble finding parking*; and *other*. In all cases, respondents to barriers questions were instructed to check all that applied. At the end of the questionnaire, there was an open-ended question where respondents could say anything else "about what makes it difficult for you to participate more in the union."

G. Conclusions/implications:

Unknown; information not obtained.

A. Bibliographic citation:

Jackson, Edgar L. and Karla A. Henderson. "Gender-Based Analysis of Leisure Constraints." Leisure Sciences, Vol. 17, No. 1 (Jan.-Mar. 1995), pp. 31-51.

B. Objective/purpose/goal:

This study was intended to empirically address two questions: What leisure constraints do men and women experience? and How are the effects of constraints among men and women filtered by personal and situational circumstances?

C. Type of activity:

Recreation activities; the article provides neither a definition nor examples.

D. Research method:

This study was a secondary analysis of data from two administrations of the General Recreation Survey, a mail survey conducted by the provincial government of Alberta, Canada, in 1988 and 1992. The 1992 instrument was identical to the earlier one. The two original data bases resulting from these surveys were combined into a single one for the purpose of this study.

E. Research subjects:

Both surveys used random samples of households drawn from provincial telephone listings; the adult (age 18 or older) member of the household who had the most recent birthday was asked to respond. The 1988 survey involved 7,038 households and achieved a response rate of about 58 percent; the 1992 survey involved 10,299 households and achieved a response rate of about 54 percent.

F. Structural/technical issues:

The article does not give the survey's exact wording, but Jackson and Henderson explain the instrument as follows: "Respondents were asked if there was an activity in which they would like to participate but were unable to because of the effects of one or more constraints. Those who answered yes (*n* = 4,320; 49.0%) were then asked to evaluate the importance of 15 reasons for being unable to participate in their desired activity, on a 4-point response scale ranging from 1 (*not at all important*) to 4 (*very important*)..." (p. 34). The items were: *don't know where to participate*; *don't know where to learn*; *difficult to find others*; *no opportunity close to home*; *cost of transportation*; *lack of transportation*; *equipment cost*; *admission fees and charges*; *no physical ability*; *physically unable to take part*; *not at ease in social situations*; *overcrowded facilities*; *poorly maintained facilities*; *too busy with work*; and *too busy* *with family*. (The question structure/format and wording described here is quite similar to that used in a 1981 survey in Alberta, described by Searle and Jackson [1985]; however, the 15 answer items are somewhat different.)

G. Conclusions/implications:

The authors did not identify any explicit implications of their study for the marketing or delivery of leisure/recreation activities/programs; how to increase participation was not a primary concern of their research. They did, however, discuss the meaning of their practical and theoretical findings for leisure research.

A. Bibliographic citation:

Jones, Maridee and Mary Nies. "The Relationship of Perceived Benefits of and Barriers to Reported Exercise in Older African American Women." Public Health Nursing, Vol. 13, No. 2 (April 1996), pp.151-158.

B. Objective/purpose/goal:

This study's purpose was to investigate the relationship between reported exercise levels, perceptions about the importance of exercise, and perceived benefits of and barriers to regular exercise participation among older African American women. The general conceptual framework underlying this study is that the decision to engage in exercise (a type of health promotion behavior) is influenced by the interaction of cognitive/perceptual factors--such as perceptions of health importance, self-efficacy, health status, benefits, and barriers--and various modifying factors--such as demographic and biological characteristics, interpersonal influences, and situational and behavioral factors.

C. Type of activity:

Physical exercise (specific types not mentioned).

D. Research method:

The researchers selected a series of written data collection instruments, similar to ones that had been used in earlier, related studies of different populations. However, only five of the participants completed the questionnaires themselves; for the remaining participants, the researchers read each question aloud in one-on-one sessions, and marked the answers the respondents indicated. All data collection took place in private rooms at the chosen senior centers.

E. Research subjects:

The researchers used a convenience sample of 30 older (ages 60-90) African American women who attend senior citizens centers in a large city in the mid-South. In addition, none of the participants were institutionalized and all of them understood English.

F. Structural/technical issues:

All study participants, regardless of their reported current level of exercise participation and the level of importance they attach to exercise, were given a very slightly modified version of the Exercise Benefits/Barriers Scale (EBBS) developed by Sechrist, Walker, and Pender (1987). The instrument listed 44 statements about exercise, approximately half which, presumably, pertained to barriers. Among the barrier items listed in the EBBS were: *exercise is hard work*; *exercise tires me*; *I am afraid to walk in my neighborhood*; and *places for me to exercise are far away*. The authors report that each potential barrier is rated by respondents on a "four-point forced choice Likert scale," but they do not report the phrases associated with points on this scale. Respondents were also given an opportunity to identify "any [other] factors that keep you from exercising."

G. Conclusions/implications:

Jones and Nies conclude, "Understanding the factors that influence individual adoption of exercise will allow nurses to develop interventions specific to the needs of women in general and African American women in particular." They also call for more research using larger samples.

A. Bibliographic citation:

McGuire, Francis A. "A Factor Analytic Study of Leisure Constraints in Advanced Adulthood." Leisure Sciences, Vol. 6, No. 3, pp. 331-326, 1984.

B. Objective/purpose/goal:

This study was intended to add to the body of knowledge concerning constraints on leisure among older people through a particular type of analysis.

C. Type of activity:

Leisure activities; the article does not provide any definitional details.

D. Research method:

Telephone survey using a structured questionnaire.

E. Research subjects:

Subjects were adults age 45 or older from an undisclosed Midwestern city. First, a sample of 454 individuals was drawn from the city telephone directory. Second, screening calls were made to 190 households to identify potential respondents in the proper age range. The researchers eventually completed 125 interviews. Average age of respondents was about 64.

F. Structural/technical issues:

The questionnaire "was designed to gather information on leisure involvement and reasons why individuals were unable to participate in desired activities" (p. 316). It listed 30 possible constraints, which respondents were asked to rate in terms of how important they were in limiting their leisure involvement, using a three-point scale--"not important," "somewhat important," and "very important." Examples of the 30 constraints include: *lack of facilities*, *lack of information*, *not having enough money*, *having more important things to do*, *not having enough time*, *too busy with work*, *too busy with other activities*, *a feeling that family/friends would not approve*, *don't have needed skills*, *lack of energy*, *health*, *weather*, *fear of crime*, *lack of transportation*, *too many family responsibilities*, and *too old*. All respondents apparently were asked the constraints questions, regardless of their current involvement in leisure activities.

G. Conclusions/implications:

McGuire writes that the results of his exploratory factor analysis, which found a structure of five factors underlying leisure constraints in advanced adulthood, should be of interest to leisure services providers. He suggests that procedures and programs be implemented to remove major barriers, even including counseling programs to improve the attitudes and self-confidence of those who feel constrained by approval-related issues.

A. Bibliographic citation:

Michels, Thomas C. et al. "Barriers to Screening: The Theory of Reasoned Action Applied to Mammography Use in a Military Beneficiary Population." Military Medicine, Vol. 160(9) pp. 431-437, September 1995.

B. Objective/purpose/goal:

This study had two objectives: (1) "to estimate the participation rate in mammography screening for women who are military beneficiaries" and (2) "to evaluate the extent to which attitudes and subjective norms as defined in the theory of reasoned action are associated with women's intention to get a mammogram in the next year" (p. 432). The theory of reasoned action holds that the immediate precursor to actual behavior is the intention to perform the act. This intention is considered a function of a person's attitudes about the outcomes that may result from the specified behavior and his/her subjective norms. Attitudes are defined as a function of a person's belief that various outcomes will result from the specified behavior and his/her evaluation of that outcome. Subjective norms are said to be influenced by beliefs about what salient others think and motivation to comply with their wishes.

C. Type of activity:

Mammography.

D. Research method:

Mail survey.

E. Research subjects:

Subjects were selected in a multi-stage stratified sample of women age 40 and older who were eligible for care at Madigan Army Medical Center, a referral center for military beneficiaries in Alaska, Idaho, Oregon, and Washington. The sample size was 500; the adjusted response rate was 70 percent.

F. Structural/technical issues:

Few details are given on the structure, etc., of the questionnaire, which was modeled on others developed for similar past research projects. Apparently, the instrument contained only a single, open-ended question about barriers to obtaining a mammogram (which only slightly more than half of the respondents answered, citing mainly cost and system-related factors such as scheduling difficulties). Following the theory of reasoned action, the instrument was apparently designed to collect primarily belief/attitudinal information relating to what a mammogram is likely to find, what the experience of getting a mammogram is like, and intentions for getting a mammogram in the future. Information about past experiences with mammography was also collected.

G. Conclusions/implications:

"The results of this study affirm the importance of client factors and perceptions in mammography participation" (p. 435). The authors also call on the military health care system to address external barriers to regular participation.

A. Bibliographic citation:

Myers, Renee S. and David L. Roth. "Perceived Benefits of and Barriers to Exercise and Stage of Exercise Adoption in Young Adults." Health Psychology, 1997, Vol. 16, No. 3 (May 1997), pp. 277-283.

B. Objective/purpose/goal:

"The primary aim of this study was to investigate the multidimensional structure of perceived benefits of exercise and barriers to exercise within a multistage theoretical framework for exercise adoption." (The four theoretical stages of exercise adoption are precontemplation, contemplation, training, and maintenance.)

C. Type of activity:

The study focused on 15 specific types of physical exercise; however, they are not listed in the research article.

D. Research method:

The study used two related questionnaires, one addressing benefits of and barriers to exercise, the other addressing type and extent of exercise participation. Respondents completed the questionnaires in large group sessions.

E. Research subjects:

Study participants were 432 undergraduate students enrolled in introductory psychology courses at the University of Alabama, Birmingham. Their average age was 19.7 years; 58 percent were women; 70 percent were white. The students received credit toward a class research requirement for completing the questionnaires.

F. Structural/technical issues:

In the exercise participation questionnaire, as described by the authors, respondents were asked to list "three reasons why they do not exercise at all or why they do not exercise as much as they would like to." On the basis of their responses and a review of the literature, the researchers developed a list of 24 potential barriers for the benefits and barriers questionnaire. Examples included: *too much work*; *too inconvenient*; *too boring*; *takes too much discipline*; *not enough time*; *friends do not exercise*; *no convenient places*; *interferes with social life*; *interferes with work*; and *family obligations*. Respondents were asked to rate each item on a five-point scale ranging from (1) *not important* to (5) *extremely important*. All respondents--both exercisers and nonexercisers--completed the benefits and barriers questionnaire.

The authors investigated "test-retest reliability" over a two-week period with a subset of 143 study participants. They report that the reliability of "the total barrier score" was $r = .68$, somewhat lower than for the total benefit score $r = .88$).

G. Conclusions/implications:

The study's factor-analytic findings, according to its authors, "confirm the multidimensional nature of perceived benefits of and barriers to exercise" (p. 277). As might be expected, people at different stages of exercise adoption have different perceptions of barriers. For example, those in the contemplation stage perceive greater time/effort barriers than those in the training stage. For health professionals trying to encourage people to start and continue an exercise program, the authors conclude, it is important to identify the particular barriers (and benefits) perceived by specific groups.

A. Bibliographic citation:

Orend, Richard J. *Leisure Participation in the South: Volume II--Appendices. Final Report*. Sponsored by the National Endowment for the Arts. Alexandria, VA: Human Resources Research Organization (HumRRO), July 1980. (ERIC #ED206522)

B. Objective/purpose/goal:

This study was undertaken to assess the nature of popular interest in and demand for artistic and cultural activities in the South. The general objective was to provide information to policy makers on public opinion regarding the relative merits of "elitist activities" (high cultural activities such as attending operas and symphonies), and "popular activities" (a broader range of art and leisure-related activities such as camping) to assist in the development of policy on the arts.

C. Type of activity:

Various arts-related and other leisure activities.

D. Research method:

Data on extent of past participation, desire for future participation, and reasons for nonparticipation in various types of leisure/arts-related activities were collected through a self-administered mail survey.

E. Research subjects:

Adults living in 13 southern states. The researchers first contacted potential respondents through random digit dialing of households in areas selected through a multistage cluster probability sample. Questionnaires were delivered to 3,196 people who said they would participate in a mail survey; 1,684 individuals actually returned a survey, for a response rate of 53 percent.

F. Structural/technical issues:

The HumRRO survey on leisure participation in the South asked respondents about 45 specific leisure activities, ranging from highly informal ones, such as playing with one's children, to more formal or structured activities, such as taking classes in art history or literature. The first part of the instrument addressed the availability of various activities, extent of participation before and after age 18, and extent of participation in the past year. The second part of the instrument addressed barriers to participation in each of 45 activities. Respondents were first asked to indicate the extent to which they would like to increase their participation in an activity, using a four-point scale with 0 meaning no desire to increase participation and 3 meaning a very strong desire to increase participation. Next, for each of the activities in which they wanted to increase participation (not those they had given a 0), respondents were asked, "What is the most important reason you haven't done more of this in the past year?" Twelve response options were listed to choose from: "My family and/or friends are not interested," "it is inconvenient to get there, too far or unsafe to attend these events," "the quality of the performance//players is not very good," "I don't like to get dressed up to go out," "the facilities (place where the activity occurs) are not very good," "the crowds are too large," "I don't like the programs they present," "it costs too much," "I like doing other things more," "they are not available in my area," "I'm too old or physically handicapped," and "because of the children." Respondents were also allowed to cite up to two "other reason[s]."

G. Conclusions/implications:

Not available. However, the National Endowment for the Arts (1984), in a report that reviewed the results of Orend's study (along with the one by Reed and Marsden 1980), concluded that barriers such as lack of knowledge of participation opportunities, lack of past exposure to a particular activity, and lack of facilities, are "amenable, at least in principle, to policy intervention" (p. 56). However, the report also cautioned that some barriers, such as the cost of attendance at certain activities, traffic-related problems, or geographic location, "cannot be readily overcome" (p. 57).

A. Bibliographic citation:

Reed, John Shelton and Peter V. Marsden. *Leisure Time Use in the South: A Secondary Analysis*. Study sponsored by the National Endowment for the Arts, Washington, DC: December 1980. (ERIC #ED221435)

B. Objective/purpose/goal:

The objective of this study was to provide the National Endowment for the Arts with information on participation in arts-related (and other leisure time) activities, demand for increased participation, and barriers to greater participation in Southern states.

C. Type of activity:

The study addressed a wide range of leisure activities, including arts-related activities such as playing a musical instrument and working with a theater group.

D. Research method:

This study involved a secondary analysis data from two sources. One data source was the Harris Organization, which conducted three similar surveys (in 1973, 1975, and 1978) on arts-related leisure activities. All three surveys apparently involved in-person interviews using a structured questionnaire. The second data source was a self-administered mail survey on arts-related leisure activities conducted in 1978 by the Human Resources Research Organization (HumRRO).

E. Research subjects:

Subjects for three Harris surveys were nationally representative samples of the non-institutionalized adult (over age 16) population of the 48 contiguous states. Samples were drawn following standard procedures for opinion polls, specifically "multi-stage area probability samples, down to the level of city blocks or similar units, stratified by region and size of place" (p. 1-3) with non-probability methods used for block-level selections. The number of respondents for the three surveys was 3,005, 1,555, and 1,425, respectively.

The HumRRO study utilized a probability sample of adults in 13 southern states. About 3,200 questionnaires were delivered to potential respondents; the response rate was 53 percent.

F. Structural/technical issues:

In the Harris surveys, the following structure was apparently used in asking barriers questions. (Reed and Marsden did not reproduce the original data collection instruments, making it impossible to know details such as question wording. For example, it is unclear whether the word "barriers" or a similar phrase was used.) Respondents were presented with a series of arts-related activities, such as painting, drawing, or sculpture, and singing in a choir. For each activity, respondents were asked to choose one of three answer choices: *participate*, *do not participate but would like to*, or *no interest*. Respondents who reported that they did not participate in a particular activity, but were interested in doing so, were asked why they did not. Seven possible reasons for nonparticipation were offered--*insufficient time*, *no facilities*, *cost of lessons*, *no talent*, *no training*, *family not interested*, and *other*--with respondents allowed to cite more than one reason.

In their discussion of the Harris poll results, Reed and Marsden define "barriers" as "factors which keep people who *want* to participate in some activity from doing so." This definition includes as barriers both the lack of opportunity to participate (because, for example, no facilities are available) and factors that make it harder to participate (such as cost or inconvenient location). The authors, however, are somewhat uncomfortable with considering lack of time as a barrier. "...it is probably misleading," they wrote, "to think of 'insufficient time' as a 'barrier' in the same sense as 'insufficient money.'" Time represents an opportunity cost. When people cite lack of time as a reason for nonparticipation, "what they are saying, in effect, is that they would rather do something else" (p. 4-1).

In their discussion of the HumRRO study, Reed and Marsden criticize the use of the answer choice *prefer to do other things* as a barrier, saying that this is not really a barrier at all. (The authors also report that this answer was cited far more than any other reason for nonparticipation, which, they argue, make the results of the HumRRO barriers questions not worth analyzing, because they only reflect patterns of taste or personal preference.) Reed and Marsden do suggest, however, that ignorance or lack of knowledge about the availability of opportunities to participate can legitimately be considered a barrier to participation.

G. Conclusions/implications:

The authors conclude that differences between Southerners and non-Southerners in extent of participation in arts-related activities do not reflect that different barriers. In fact, the data suggest that although Southerners are less likely than non-Southerners to engage in most of the activities examined, they face fewer barriers. Removing barriers to participation, the authors claim, might well reduce existing regional differences.

A. Bibliographic citation:

Romsa, Gerald, and Wayne Hoffman. "An Application of Nonparticipation Data In Recreation Research: Testing the Opportunity Theory." *Journal of Leisure Research*, Vol. 12(4) 1980, pp. 321-328.

B. Objective/purpose/goal:

The authors had two objectives: (1) to demonstrate the use of data on nonparticipants in recreation research, and (2) to describe how bias can be introduced into recreation studies by accepting the "opportunity theory." This theory posits that "all things being equal, individuals from different segments of society have the same propensity to participate within a given outdoor recreation activity."

C. Type of activity:

Focus is 19 outdoor recreation activities, ranging from tent camping to bird watching to tennis.

D. Research method:

The study was a secondary analysis of data from "the 1969 Canadian National and Historic Branch sample of 2,968 interviews." Further information not available; details not disclosed in the article.

E. Research subjects:

Information not available; details not disclosed in the article. Apparently, however, the subjects were a diverse national sample of Canadians.

F. Structural/technical issues:

Few details are provided on the survey's question order or wording, etc. However, it is clear that all nonparticipants in a particular activity were asked about their reasons for nonparticipation, and that *lack of interest* was an answer choice, along with *lack of time*, *lack of facility*, and *lack of funds*.

G. Conclusions/implications:

Having found that (1) the vast majority of people do not participate in various outdoor recreation activities, (2) lack of interest was the main reason for nonparticipation, and (3) lower-income people are more likely not to participate for lack of interest, while higher-income nonparticipants are more likely to cite other reasons, the authors conclude that it is important to include the viewpoints of nonparticipants when studying the underlying processes of recreational behavior.

A. Bibliographic citation:

Searle, Mark S., and Edgar L. Jackson, "Socioeconomic Variations in Perceived Barriers to Recreation Participation Among Would-be Participants," Leisure Sciences, Vol. 7, No. 2, pp. 227-249, 1985.

B. Objective/purpose/goal:

The purpose of this study was to investigate socioeconomic variations in the perception of barriers to participation in recreation activities. (Based on previous research, the authors contended that it is "logical to expect that the effects of barriers, *or more properly the perception of such effects*, would vary consistently with personal and situational attributes of members of the public" [p. 231; emphasis added].)

C. Type of activity:

Recreation activities; the article does not provide a definition or examples.

D. Research method:

Mail survey, conducted in early 1981.

E. Research subjects:

For the survey, a sample of 4,700 households was randomly drawn from telephone directories for the entire Canadian province of Alberta; 2,425 questionnaires were returned, representing a response rate of nearly 52 percent.

F. Structural/technical issues:

The questionnaire contained the following question: "Is there any recreational activity that you don't take part in now but would like to start regularly?" Fifty-one percent of the survey respondents (1,240 individuals) answered in the affirmative. The survey may have then asked these respondents to specify the activity, but this is unclear from the article. Regardless, this subset of respondents was subsequently asked, "Why don't you participate in this activity?" A list of 15 possible barriers to participation was presented, and respondents were instructed to indicate whether each one was never, sometimes, or often a problem. The 15 barriers were as follows: *work commitments, no opportunity to participate close to home, overcrowded facilities, cost of equipment, no others to participate with, don't know where I can participate, facility fees/charges, family commitments, don't know where I can learn, shy about participating in public, cost of gasoline, lack physical abilities, lack of transportation, physically unable*, and *lack artistic/creative abilities*.

G. Conclusions/implications:

Having found that different socioeconomic groups (based on variables such as age, sex, education, and income) experience certain barriers to differing extents, Searle and Jackson suggest that recreation providers use target-marketing strategies to "fit" programs and services to different segments of the population. In terms of alleviating the effects of perceived barriers to participation, the authors conclude that

> the impact of the work commitments barrier will remain unchanged regardless of attempts by recreation practitioners to "educate" people otherwise. Indeed, work and family commitments are generally considered to be out of the control or sphere of influence of practitioners. Therefore, it would be best if efforts spent on removing or diminishing the effect of barriers were directed toward those items that can effectively be controlled or modified. These might include barriers such as overcrowding of facilities, lack of partners and opportunities, and lack of knowledge of where to participate or where to learn a recreation activity (pp. 244-245).

One means for reducing barriers that the authors discuss is leisure education. Finally, they argue that without information on the barriers that affect different subgroups, "public recreation agencies will not be able to serve the entire range of the population to whom they have a responsibility" (p. 247).

A. Bibliographic citation:

Verhoef, Marja J. and Edgar J. Love. "Women and Exercise Participation: The Mixed Blessings of Motherhood." Health Care for Women International, Vol. 15(4), pp. 297-306, Jul.-Aug. 1994.

B. Objective/purpose/goal:

To explore how mothers and women without children differ in terms of dimensions of exercise participation, perceived barriers to exercise, and perceived benefits of exercise.

C. Type of activity:

Exercise, "defined as leisure-time physical activity."

D. Research method:

The study used a mail survey.

E. Research subjects:

Subjects were women ages 20-49 "who were not pregnant and not immediately postpartum." The sample was initially contacted through a random-digit dial telephone survey of residents of Calgary, Canada. A questionnaire was sent in the mail to those who said they would be willing to reply. A total of 1,113 women replied (about 44 percent were mothers), for a reported response rate of 80 percent.

F. Structural/technical issues:

Very few details are provided on the structure or wording of the questionnaire. It appears that respondents were first asked a series of questions about their recent exercise experiences. Questions concerned the intensity, frequency, duration, and pattern of exercise. They were then asked about their perceptions of barriers to participation using a series of questions taken from a previous study on the fitness and lifestyles of Canadians, the 1988 Campbell's Survey (Stephens and Graig 1990). The questionnaire listed at least 21 potential barriers, with respondents apparently instructed to check all that applied to them. Examples included: *lack of time because of work*; *lack of time because of family obligations*; *lack of energy, too tired*; *lack of self-discipline or willpower*; *lack of interest*; *long-term illness, disability, or injury*; *lack of programs or accessible facilities*; *cost*; *lack of babysitting services*; *lack of support from spouse*; and *get enough physical activity in job*. All respondents answered the barriers section of the instrument, including those who had participated in exercise within the time frame specified in the questionnaire.

G. Conclusions/implications:

Verhoef and Love write that this study "provides insight ... into groups of women who need to be targeted for health and exercise promotion" (p. 304) and they point out that different approaches will be needed for mothers who work and mothers who stay at home in order to remove the barriers they face. The authors also argue for broad societal changes to support all mothers, such as adequate, affordable day care and flexible work schedules.

A. Bibliographic citation:

Williams, Peter W. and Richard Basford. "Segmenting Downhill Skiing's Latent Demand Markets." American Behavioral Scientist, Vol. 36(2) 222-235, Nov.-Dec. 1992.

B. Objective/purpose/goal:

To provide information on the potential latent demand for skiing in Western Canada, and to demonstrate a methodology (cluster analysis) for segmenting subgroups of a latent demand market.

C. Type of activity:

Downhill skiing.

D. Research method:

Household telephone survey; instrument initially based on previous studies and refined following six focus groups.

E. Research subjects:

A random sample of adults (persons over age 17) living in Alberta, Canada, who had never skied or had not skied for at least two years

F. Structural/technical issues:

Very little specific information is provided on the details of question order, wording, and so on, in the survey. However, questions on perceived constraints to participation in downhill skiing were apparently addressed to nonskiers (both those who had never participated and former, but not recent, participants) *who expressed an interest in the activity*. Respondents were asked to rate their extent of agreement (on a six-point scale, ranging from strongly disagree to strongly agree) with a list of "skiing imagery statements," which probed their perceptions of costs, difficulty, danger, and benefits associated with downhill skiing. Examples of some of the more general constraint statements presented about skiing included: *it is physically demanding, equipment is too expensive, easy and inexpensive transportation is important, it takes up too much time, it's for younger people*, and *I would feel embarrassed in front of friends*. The authors note that perceived constraints pertained to the respondents themselves (for example, physical ability and disposable income), as well as to the nature of the activity (for example, the risk or danger involved) and the downhill skiing industry (for example, line hassles and service levels). They also note that different constraints are more important to different segments or subgroups of the nonskiing population.

G. Conclusions/implications:

Williams and Basford conclude that if constraints could be entirely eliminated, or at least diminished, more nonskiers would participate in downhill skiing. They also stress the importance of the ski industry "thoroughly understanding the differences between nonparticipation subgroups before embarking on specific programs to translate latent demand into current demand" (p. 233).

Listing of NCES Working Papers to Date

Please contact Ruth R. Harris at (202) 219-1831 (ruth_harris@ed.gov)
if you are interested in any of the following papers

Number	Title	Contact
94-01 (July)	Schools and Staffing Survey (SASS) Papers Presented at Meetings of the American Statistical Association	Dan Kasprzyk
94-02 (July)	Generalized Variance Estimate for Schools and Staffing Survey (SASS)	Dan Kasprzyk
94-03 (July)	1991 Schools and Staffing Survey (SASS) Reinterview Response Variance Report	Dan Kasprzyk
94-04 (July)	The Accuracy of Teachers' Self-reports on their Postsecondary Education: Teacher Transcript Study, Schools and Staffing Survey	Dan Kasprzyk
94-05 (July)	Cost-of-Education Differentials Across the States	William Fowler
94-06 (July)	Six Papers on Teachers from the 1990-91 Schools and Staffing Survey and Other Related Surveys	Dan Kasprzyk
94-07 (Nov.)	Data Comparability and Public Policy: New Interest in Public Library Data Papers Presented at Meetings of the American Statistical Association	Carrol Kindel
95-01 (Jan.)	Schools and Staffing Survey: 1994 Papers Presented at the 1994 Meeting of the American Statistical Association	Dan Kasprzyk
95-02 (Jan.)	QED Estimates of the 1990-91 Schools and Staffing Survey: Deriving and Comparing QED School Estimates with CCD Estimates	Dan Kasprzyk
95-03 (Jan.)	Schools and Staffing Survey: 1990-91 SASS Cross-Questionnaire Analysis	Dan Kasprzyk
95-04 (Jan.)	National Education Longitudinal Study of 1988: Second Follow-up Questionnaire Content Areas and Research Issues	Jeffrey Owings
95-05 (Jan.)	National Education Longitudinal Study of 1988: Conducting Trend Analyses of NLS-72, HS&B, and NELS:88 Seniors	Jeffrey Owings

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Number	Title	Contact
95-06 (Jan.)	National Education Longitudinal Study of 1988: Conducting Cross-Cohort Comparisons Using HS&B, NAEP, and NELS:88 Academic Transcript Data	Jeffrey Owings
95-07 (Jan.)	National Education Longitudinal Study of 1988: Conducting Trend Analyses HS&B and NELS:88 Sophomore Cohort Dropouts	Jeffrey Owings
95-08 (Feb.)	CCD Adjustment to the 1990-91 SASS: A Comparison of Estimates	Dan Kasprzyk
95-09 (Feb.)	The Results of the 1993 Teacher List Validation Study (TLVS)	Dan Kasprzyk
95-10 (Feb.)	The Results of the 1991-92 Teacher Follow-up Survey (TFS) Reinterview and Extensive Reconciliation	Dan Kasprzyk
95-11 (Mar.)	Measuring Instruction, Curriculum Content, and Instructional Resources: The Status of Recent Work	Sharon Bobbitt & John Ralph
95-12 (Mar.)	Rural Education Data User's Guide	Samuel Peng
95-13 (Mar.)	Assessing Students with Disabilities and Limited English Proficiency	James Houser
95-14 (Mar.)	Empirical Evaluation of Social, Psychological, & Educational Construct Variables Used in NCES Surveys	Samuel Peng
95-15 (Apr.)	Classroom Instructional Processes: A Review of Existing Measurement Approaches and Their Applicability for the Teacher Follow-up Survey	Sharon Bobbitt
95-16 (Apr.)	Intersurvey Consistency in NCES Private School Surveys	Steven Kaufman
95-17 (May)	Estimates of Expenditures for Private K-12 Schools	Stephen Broughman
95-18 (Nov.)	An Agenda for Research on Teachers and Schools: Revisiting NCES' Schools and Staffing Survey	Dan Kasprzyk
96-01 (Jan.)	Methodological Issues in the Study of Teachers' Careers: Critical Features of a Truly Longitudinal Study	Dan Kasprzyk

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Number	Title	Contact
96-02 (Feb.)	Schools and Staffing Survey (SASS): 1995 Selected papers presented at the 1995 Meeting of the American Statistical Association	Dan Kasprzyk
96-03 (Feb.)	National Education Longitudinal Study of 1988 (NELS:88) Research Framework and Issues	Jeffrey Owings
96-04 (Feb.)	Census Mapping Project/School District Data Book	Tai Phan
96-05 (Feb.)	Cognitive Research on the Teacher Listing Form for the Schools and Staffing Survey	Dan Kasprzyk
96-06 (Mar.)	The Schools and Staffing Survey (SASS) for 1998-99: Design Recommendations to Inform Broad Education Policy	Dan Kasprzyk
96-07 (Mar.)	Should SASS Measure Instructional Processes and Teacher Effectiveness?	Dan Kasprzyk
96-08 (Apr.)	How Accurate are Teacher Judgments of Students' Academic Performance?	Jerry West
96-09 (Apr.)	Making Data Relevant for Policy Discussions: Redesigning the School Administrator Questionnaire for the 1998-99 SASS	Dan Kasprzyk
96-10 (Apr.)	1998-99 Schools and Staffing Survey: Issues Related to Survey Depth	Dan Kasprzyk
96-11 (June)	Towards an Organizational Database on America's Schools: A Proposal for the Future of SASS, with comments on School Reform, Governance, and Finance	Dan Kasprzyk
96-12 (June)	Predictors of Retention, Transfer, and Attrition of Special and General Education Teachers: Data from the 1989 Teacher Followup Survey	Dan Kasprzyk
96-13 (June)	Estimation of Response Bias in the NHES:95 Adult Education Survey	Steven Kaufman
96-14 (June)	The 1995 National Household Education Survey: Reinterview Results for the Adult Education Component	Steven Kaufman

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Number	Title	Contact
96-15 (June)	Nested Structures: District-Level Data in the Schools and Staffing Survey	Dan Kasprzyk
96-16 (June)	Strategies for Collecting Finance Data from Private Schools	Stephen Broughman
96-17 (July)	National Postsecondary Student Aid Study: 1996 Field Test Methodology Report	Andrew G. Malizio
96-18 (Aug.)	Assessment of Social Competence, Adaptive Behaviors, and Approaches to Learning with Young Children	Jerry West
96-19 (Oct.)	Assessment and Analysis of School-Level Expenditures	William Fowler
96-20 (Oct.)	1991 National Household Education Survey (NHES:91) Questionnaires: Screener, Early Childhood Education, and Adult Education	Kathryn Chandler
96-21 (Oct.)	1993 National Household Education Survey (NHES:93) Questionnaires: Screener, School Readiness, and School Safety and Discipline	Kathryn Chandler
96-22 (Oct.)	1995 National Household Education Survey (NHES:95) Questionnaires: Screener, Early Childhood Program Participation, and Adult Education	Kathryn Chandler
96-23 (Oct.)	Linking Student Data to SASS: Why, When, How	Dan Kasprzyk
96-24 (Oct.)	National Assessments of Teacher Quality	Dan Kasprzyk
96-25 (Oct.)	Measures of Inservice Professional Development: Suggested Items for the 1998-1999 Schools and Staffing Survey	Dan Kasprzyk
96-26 (Nov.)	Improving the Coverage of Private Elementary-Secondary Schools	Steven Kaufman
96-27 (Nov.)	Intersurvey Consistency in NCES Private School Surveys for 1993-94	Steven Kaufman

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Number	Title	Contact
96-28 (Nov.)	Student Learning, Teaching Quality, and Professional Development: Theoretical Linkages, Current Measurement, and Recommendations for Future Data Collection	Mary Rollefson
96-29 (Nov.)	Undercoverage Bias in Estimates of Characteristics of Adults and 0- to 2-Year-Olds in the 1995 National Household Education Survey (NHES:95)	Kathryn Chandler
96-30 (Dec.)	Comparison of Estimates from the 1995 National Household Education Survey (NHES:95)	Kathryn Chandler
97-01 (Feb.)	Selected Papers on Education Surveys: Papers Presented at the 1996 Meeting of the American Statistical Association	Dan Kasprzyk
97-02 (Feb.)	Telephone Coverage Bias and Recorded Interviews in the 1993 National Household Education Survey (NHES:93)	Kathryn Chandler
97-03 (Feb.)	1991 and 1995 National Household Education Survey Questionnaires: NHES:91 Screener, NHES:91 Adult Education, NHES:95 Basic Screener, and NHES:95 Adult Education	Kathryn Chandler
97-04 (Feb.)	Design, Data Collection, Monitoring, Interview Administration Time, and Data Editing in the 1993 National Household Education Survey (NHES:93)	Kathryn Chandler
97-05 (Feb.)	Unit and Item Response, Weighting, and Imputation Procedures in the 1993 National Household Education Survey (NHES:93)	Kathryn Chandler
97-06 (Feb.)	Unit and Item Response, Weighting, and Imputation Procedures in the 1995 National Household Education Survey (NHES:95)	Kathryn Chandler
97-07 (Mar.)	The Determinants of Per-Pupil Expenditures in Private Elementary and Secondary Schools: An Exploratory Analysis	Stephen Broughman
97-08 (Mar.)	Design, Data Collection, Interview Timing, and Data Editing in the 1995 National Household Education Survey	Kathryn Chandler

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Number	Title	Contact
97-09 (Apr.)	Status of Data on Crime and Violence in Schools: Final Report	Lee Hoffman
97-10 (Apr.)	Report of Cognitive Research on the Public and Private School Teacher Questionnaires for the Schools and Staffing Survey 1993-94 School Year	Dan Kasprzyk
97-11 (Apr.)	International Comparisons of Inservice Professional Development	Dan Kasprzyk
97-12 (Apr.)	Measuring School Reform: Recommendations for Future SASS Data Collection	Mary Rollefson
97-13 (Apr.)	Improving Data Quality in NCES: Database-to-Report Process	Susan Ahmed
97-14 (Apr.)	Optimal Choice of Periodicities for the Schools and Staffing Survey: Modeling and Analysis	Steven Kaufman
97-15 (May)	Customer Service Survey: Common Core of Data Coordinators	Lee Hoffman
97-16 (May)	International Education Expenditure Comparability Study: Final Report, Volume I	Shelley Burns
97-17 (May)	International Education Expenditure Comparability Study: Final Report, Volume II, Quantitative Analysis of Expenditure Comparability	Shelley Burns
97-18 (June)	Improving the Mail Return Rates of SASS Surveys: A Review of the Literature	Steven Kaufman
97-19 (June)	National Household Education Survey of 1995: Adult Education Course Coding Manual	Peter Stowe
97-20 (June)	National Household Education Survey of 1995: Adult Education Course Code Merge Files User's Guide	Peter Stowe
97-21 (June)	Statistics for Policymakers or Everything You Wanted to Know About Statistics But Thought You Could Never Understand	Susan Ahmed
97-22 (July)	Collection of Private School Finance Data: Development of a Questionnaire	Stephen Broughman

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Number	Title	Contact
97-23 (July)	Further Cognitive Research on the Schools and Staffing Survey (SASS) Teacher Listing Form	Dan Kasprzyk
97-24 (Aug.)	Formulating a Design for the ECLS: A Review of Longitudinal Studies	Jerry West
97-25 (Aug.)	1996 National Household Education Survey (NHES:96) Questionnaires: Screener/Household and Library, Parent and Family Involvement in Education and Civic Involvement, Youth Civic Involvement, and Adult Civic Involvement	Kathryn Chandler
97-26 (Oct.)	Strategies for Improving Accuracy of Postsecondary Faculty Lists	Linda Zimbler
97-27 (Oct.)	Pilot Test of IPEDS Finance Survey	Peter Stowe
97-28 (Oct.)	Comparison of Estimates in the 1996 National Household Education Survey	Kathryn Chandler
97-29 (Oct.)	Can State Assessment Data be Used to Reduce State NAEP Sample Sizes?	Steven Gorman
97-30 (Oct.)	ACT's NAEP Redesign Project: Assessment Design is the Key to Useful and Stable Assessment Results	Steven Gorman
97-31 (Oct.)	NAEP Reconfigured: An Integrated Redesign of the National Assessment of Educational Progress	Steven Gorman
97-32 (Oct.)	Innovative Solutions to Intractable Large Scale Assessment (Problem 2: Background Questionnaires)	Steven Gorman
97-33 (Oct.)	Adult Literacy: An International Perspective	Marilyn Binkley
97-34 (Oct.)	Comparison of Estimates from the 1993 National Household Education Survey	Kathryn Chandler
97-35 (Oct.)	Design, Data Collection, Interview Administration Time, and Data Editing in the 1996 National Household Education Survey	Kathryn Chandler
97-36 (Oct.)	Measuring the Quality of Program Environments in Head Start and Other Early Childhood Programs: A Review and Recommendations for Future Research	Jerry West

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Number	Title	Contact
97-37 (Nov.)	Optimal Rating Procedures and Methodology for NAEP Open-ended Items	Steven Gorman
97-38 (Nov.)	Reinterview Results for the Parent and Youth Components of the 1996 National Household Education Survey	Kathryn Chandler
97-39 (Nov.)	Undercoverage Bias in Estimates of Characteristics of Households and Adults in the 1996 National Household Education Survey	Kathryn Chandler
97-40 (Nov.)	Unit and Item Response Rates, Weighting, and Imputation Procedures in the 1996 National Household Education Survey	Kathryn Chandler
97-41 (Dec.)	Selected Papers on the Schools and Staffing Survey: Papers Presented at the 1997 Meeting of the American Statistical Association	Steve Kaufman
97-42 (Jan. 1998)	Improving the Measurement of Staffing Resources at the School Level: The Development of Recommendations for NCES for the Schools and Staffing Survey (SASS)	Mary Rollefson
97-43 (Dec.)	Measuring Inflation in Public School Costs	William J. Fowler, Jr.
97-44 (Dec.)	Development of a SASS 1993-94 School-Level Student Achievement Subfile: Using State Assessments and State NAEP, Feasibility Study	Michael Ross
98-01 (Jan.)	Collection of Public School Expenditure Data: Development of a Questionnaire	Stephen Broughman
98-02 (Jan.)	Response Variance in the 1993-94 Schools and Staffing Survey: A Reinterview Report	Steven Kaufman
98-03 (Feb.)	Adult Education in the 1990s: A Report on the 1991 National Household Education Survey	Peter Stowe
98-04 (Feb.)	Geographic Variations in Public Schools' Costs	William J. Fowler, Jr.

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Number	Title	Contact
98-05 (Mar.)	SASS Documentation: 1993-94 SASS Student Sampling Problems; Solutions for Determining the Numerators for the SASS Private School (3B) Second-Stage Factors	Steven Kaufman
98-06 (May)	National Education Longitudinal Study of 1988 (NELS:88) Base Year through Second Follow-Up: Final Methodology Report	Ralph Lee
98-07 (May)	Decennial Census School District Project Planning Report	Tai Phan
98-08 (July)	The Redesign of the Schools and Staffing Survey for 1999-2000: A Position Paper	Dan Kasprzyk
98-09 (Aug.)	High School Curriculum Structure: Effects on Coursetaking and Achievement in Mathematics for High School Graduates—An Examination of Data from the National Education Longitudinal Study of 1988	Jeffrey Owings
98-10 (Aug.)	Adult Education Participation Decisions and Barriers: Review of Conceptual Frameworks and Empirical Studies	Peter Stowe

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